



042H

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Whereby certifying that the correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patent and Trademarks, Washington D. C. 20231 on SEPTEMBER 18, 2002 (Date of Deposit)

BETTIE HARLAN

Name of applicant assignee, or  
Registered Representative

Bettie Harlan

Signature

9/18/02

Date of Signature

Application of: )  
)  
FRANK M. SIMONUTTI, et al )  
)  
Serial No. 09/760,431 )  
)  
Filed: January 12, 2001 )

METHOD OF MAKING A GOLF BALL  
PRODUCT WITH A COVER MADE FROM  
FAST-CURING REACTION INJECTION  
MOLDED POLYURETHANE

RECEIVED

SEP 25 2002

TC 1700

DECLARATION UNDER 37 C.F.R. 1.131

I, Frank M. Simonutti, declare as follows:

1. I am an employee of Wilson Sporting Goods Company, and I am one of the applicants of this application. The other applicants are Richard D. Matheny and Ralph E. Peterson. I work at Wilson's golf ball plant in Humboldt, Tennessee.

2. This application is a continuation-in-part of Serial No. 09/176,445, filed October 21, 1998.

3. The invention which is described in claims 1-20 of this application was conceived before July 31, 1997. After the invention was conceived, Wilson Sporting Goods Company scheduled a meeting with Hennecke Machinery Division of Bayer Corporation to discuss purchasing RIM molding equipment for use in RIM molding polyurethane covers on golf balls, solid polyurethane golf balls, and polyurethane mantles for golf balls. Bayer Corporation sells RIM polyurethane materials for RIM molding and

the Hennecke Machinery Division of Bayer sells equipment for RIM molding.

4. Jerry Matheny and I met with Hennecke Machinery in Pittsburgh shortly before August 4, 1997 to discuss buying RIM molding equipment. Exhibit A attached hereto is a letter dated August 4, 1997 from Hennecke Machinery to Jerry Matheny of Wilson Sporting Goods which reports on the meeting and which encloses a proposal dated July 31, 1997 for a RIM molding line for Wilson Sporting Goods. The letter refers to a complete RIM molding operation to produce polyurethane golf balls.

5. Exhibit B is the proposal for the RIM molding line, which is dated July 31, 1997. The RIM molding line would inject Bayflex isocyanate and Bayflex polyol RIM materials in the manner described in application Serial Nos. 09/176,445 and 09/760,431. The components would be mixed and injected into a four cavity mold to form either a polyurethane cover over a core, solid polyurethane ball, or a polyurethane core. The total cost of the RIM molding line described in the quotation was \$614,600. Such a RIM molding line included more equipment than Wilson needed to proceed with development of RIM polyurethane golf balls.

6. Before any golf balls could be RIM molded with polyurethane materials a mold for the golf ball had to be made. Exhibit C is a fax dated August 15, 1997 from Dave Rocco of Bayer Corporation to Frank Suareo of Hye Precision, a division of Wilson Sporting Goods. The fax enclosed drawings for a golf ball mold for RIM molding polyurethane materials to form polyurethane

golf balls or polyurethane covers for golf balls. At that time we considered having Hye Precision make the golf ball mold for the Humboldt golf ball plant.

7. Exhibit D is a letter dated August 25, 1997 from Hennecke Machinery to Wilson Sporting Goods and a proposal for a RIM molding laboratory unit. This unit would meter isocyanate and polyol, mix the components, and inject the components into a mold for forming polyurethane golf ball components. The cost of the proposed molding unit was \$100,860.

8. Exhibit E is a fax dated August 28, 1997 from Dave Rocco to Jerry Matheny which enclosed the drawings which Mr. Rocco sent to Frank Suareo on August 15, 1997. As of August 28, 1997 we intended to make the golf ball mold at the Humboldt golf ball plant.

9. Exhibit F is a drawing dated October 14, 1997 which was prepared by Dave Rocco and which illustrates the pin block for a golf ball mold. The pins support a core within the golf ball mold so that RIM polyurethane material can be injected around the core to form a polyurethane cover.

10. Exhibit G comprises a number of drawings dated October 28, 1997 which were received from David Rocco and which illustrate details of a golf ball mold.

11. Exhibit H consists of pages 33 and 34 from one of my laboratory notebooks which are dated November 17, 1997. Page 33 refers to a meeting with Bayer on November 13, 1997 during which we discussed the design of a golf ball mold and evaluations

of different polyurethane materials, core sizes, and cover thicknesses. Page 34 refers to evaluations which would include nine samples of golf balls with solid cores which had three core sizes and three RIM polyurethane cover materials, golf balls with wound cores and RIM polyurethane covers, golf balls with RIM polyurethane mantles, and solid RIM polyurethane golf balls. All of the golf balls would be molded at Bayer using the RIM golf ball mold which would be made by Wilson Sporting Goods. The balls could not be made until the mold was completed.

12. Exhibit I is an Interoffice Memo dated November 19, 1997 which I prepared to summarize the meeting with Bayer on November 13, 1997.

13. Exhibit J is a Material List for a RIM mold which would be made by the Humboldt plant. The list includes handwritten prices and is dated November 19, 1997. The materials would have to be purchased and machined in order to make the golf ball mold.

14. Exhibit K is a Request for Authorization for the funds to buy the Laboratory RIM Molding Unit which was the subject of Exhibit D. RIM molding of golf balls could not be performed at Wilson Sporting Goods without the laboratory RIM molding unit. The cost of the laboratory RIM molding unit was \$100,860.00.

15. Exhibit L is a Interoffice memo which I prepared on December 9, 1997 to justify the cost of the Laboratory RIM molding unit.

16. The Request for Authorization was approved, and Exhibit M is a Purchase Order dated December 15, 1997 which Wilson sent to Bayer for the Laboratory RIM Molding Unit.

17. Exhibit N is a letter dated January 6, 1998 from Hennecke Machinery Division of Bayer to me in response to our purchase order. The letter states that the scheduled date for shipping the Laboratory RIM Molding Unit is March 30, 1998.

18. The golf ball mold was made at the Humboldt plant by February 8, 1998. Exhibit O is a Shipping Form dated February, 1998 for shipping the golf ball mold to Bayer Corporation. The golf ball mold was shipped to Bayer so that Bayer could use the golf ball mold in Bayer's RIM molding line to make the sample golf balls which are referred to in Exhibits H and I.

19. The golf ball mold was not completed before February, 1998 because the end of each year and the beginning of the next year is the busiest time in Wilson's golf ball plant. Early season shipments of golf balls begin on about March 1 of each year, and the biggest selling season is March and April. Manufacturing and maintenance personnel in the plant are busy devoting substantially all of their time during the preceding several months manufacturing golf balls to build up inventory. The golf ball mold for the RIM molding unit was made by maintenance people in the Humboldt golf ball plant, and the maintenance people were busy during the months of December, 1997 and January, 1998 keeping the manufacturing machines in

operation.

20. The golf ball mold was shipped to Bayer for use on Bayer's RIM molding line because the Laboratory RIM Molding Unit which Wilson ordered was not due to be shipped until March 30, 1998.

21. Exhibit P is a Shipping Form dated March 3, 1998 for shipping golf ball cores and a timer for the golf ball mold to Bayer. The golf ball cores were to be used to make the sample golf balls which are described in Exhibits H and I. The timer was used to pull the pins on the golf ball mold which support a core in the cavity of the mold. This timer had to be modified for the RIM golf ball mold.

22. Exhibit Q is a Patent Disclosure entitled "Golf Ball Mold Using RIM Process" which I began preparing on about March 17, 1998 and which was signed by me and others on April 2, 1998. The first page refers to a date of first reduction on March 17, 1998. That was the date when Bayer molded golf balls with polyurethane covers using the RIM golf ball mold, golf ball cores, and timer which Wilson shipped to Bayer on February 8, 1998 as shown in Exhibit O and on March 3, 1998 as shown on Exhibit P. Those balls included all of the elements of claims 1-20 of this application.

23. Exhibit R is a letter dated April 20, 1998 from Hennecke Machinery to me which states that the Laboratory RIM molding unit will be shipped by Hennecke Machinery on April 24, 1998 for arrival at the Humboldt plant on April 27, 1998.

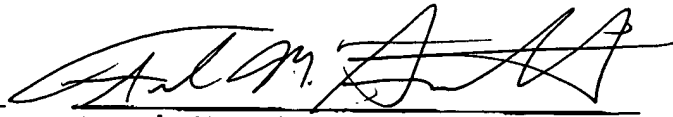
24. Exhibit S is a letter dated April 30, 1998 from Bayer to me which enclosed the remaining golf ball samples which had RIM polyurethane covers molded over cores. Bayer had previously sent other golf ball samples.

25. Exhibit T is a page from my laboratory notebook which I prepared on May 18, 1998 and which records the results of tests which were performed under my direction on the golf balls which were molded with RIM polyurethane covers by Bayer. Those balls included two sizes of solid cores -- 1.50 inches and 1.54 inches -- and 3 Bayflex RIM polyurethane cover materials -- 110-80, 110-50, and MP-1000. The table in the middle of the page lists the ball size, PGA compression, weight, Shore D hardness of the cover, coefficient of restitution (COR), and initial velocity (IV).

26. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated:

September 16, 2002



Frank M. Simonutti



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1732  
#11  
P.L.H.  
9-2502

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patent and Trademarks, Washington D. C. 20231 on SEPTEMBER 18, 2002

(Date of Deposit)  
BETTYE HARLAN  
Name of applicant, assignee, or Registered Representative  
Bettye Harlan  
Signature  
9/18/02  
Date of Signature

Application of: )  
)  
FRANK M. SIMONUTTI, et al )  
)  
Serial No. 09/760,431 )  
)  
Filed: January 12, 2001 )

METHOD OF MAKING A GOLF BALL  
PRODUCT WITH A COVER MADE FROM  
FAST-CURING REACTION INJECTION  
MOLDED POLYURETHANE

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

RECEIVED  
SEP 25 2002  
TC 1700

TRANSMITTAL OF DECLARATION UNDER 37 C.F.R. 1.131

Supplementing the Preliminary Amendment which was mailed to the Patent and Trademark Office on September 13, 2002, applicants submit herewith a Declaration Under 37 C.F.R. 1.131.

Respectfully submitted,

John W. Chestnut  
John W. Chestnut  
Reg. No. 17,669

GREER, BURNS & CRAIN, LTD.  
300 South Wacker Drive  
Suite 2500  
Chicago, IL 60606  
312.360.0080

Dated: September 18th, 2002



AUG 04 '97 09:46AM MILES HENNECKE MACH 412 746 1334

P.2/15

**Bayer** 

Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

August 4, 1997

Mr. Jerry Matheny  
Wilson Sporting Goods  
2330 Ultra Drive  
Humboldt, TN 38343

Subject: RIM Molding Equipment w/ Installation

Reference: Hennecke Proposal No. 97S-0218

Dear Mr. Matheny:

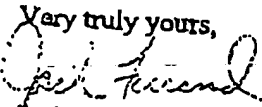
It was a pleasure meeting with you and the other personnel from Wilson during your visit to Pittsburgh. Per our discussions, the following is our preliminary quotation for the complete RIM molding operation needed to produce polyurethane golf balls for your review and consideration.

The following are a few items I wanted to highlight about the proposal:

- The system is quoted complete with equipment, installation, and construction supervision, and training
- We have made some assumptions about the system which can be seen in Section Two
- Production rate will depend on which part is produced full cover or half cover - details of production are listed in Section Two
- A proposal can be given with even greater or less automation

I hope that this proposal meets your needs. If you have any questions, please do not hesitate to give me a call.

Very truly yours,

  
Jack T. Ferrand  
Technical Sales Specialist  
Hennecke Machinery

cc: T.T. Roseberry / A.S. Mehta / E.W. Caschbeck / H.M. George / D.P. Rocco

AUG 04 '97 09:46AM MILES HENNECKE MACH 412 746 1334

P.3/15



Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-8741  
Phone: 412 777-2000  
Fax: 412 746-1334

# ***Proposal***

Hennecke Machinery

*For*  
**WILSON SPORTING  
GOODS**  
(Humboldt, TN)

RIM Molding Line  
Hennecke Proposal No. 97S-0218  
July 31, 1997

Blumberg No. 5118

EXHIBIT

15

AUG 04 '97 09:46AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.4/15

---

# *Contents*

	SECTION
Summary	1
System Parameters	2
Price and Delivery	3
Terms	4
Description of the Equipment	5
Submittal and Acceptance	6

AUG 24 '97 09:47AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal N . 97S-0218

P.5/15

---

# SECTION ONE

---

## Summary

This proposal includes equipment for a foam molding line. Turntable, mold carriers, robot, metering equipment and installation are included. The wet system package is mounted onto a frame that is designed for ease of installation at your location. We have included project management, design engineering and training. We have not included anything not specifically mentioned. In particular, we have excluded utilities supply, site preparation, and electrical power distribution panel. *Freight to site for foam molding line and ventilation system (if required) is not included.* Purchaser will be supplying molds. Any applicable taxes have not been included.

The system will be set up and tested in the Factory. We will check all aspects of the equipment except we will use Mesamol in place of the iso and polyol for the metering system. At the time we are checking out this equipment, we will invite you and your staff to witness this test and obtain training on the pumps, controls, etc. The equipment requires connection to power (480 Volt), compressed air (30 - 40 CFM, 100 psig, oil-free), and nitrogen (or dry air, -40 degrees F dewpoint). These utilities are to be provided by the Purchaser. The quoted machine is designed for viscosities of up to 1000+ cps (polyol) and 1000+ cps (iso) and is capable of multiple shots per minute.

The entire machine facility will be supported by Pittsburgh-based technical service personnel and our extensive Pittsburgh spare parts warehouse. Our reputation for machine reliability and prompt service is second to none in the industry.

AUG 04 '97 09:47AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.6/15

---

## SECTION TWO

---

# SYSTEM PARAMETERS

The following parameters and assumptions have been made for the system:

### Production Rate:

(Assuming full cover, full ball, or full core is produced on equipment)

Cycle Time: 12 seconds  
Dwell Time: 8 seconds  
Index Time: 4 seconds  
# Parts / Mold: 4

Using an eight-hour shift, production would be:

- 4 parts every 12 sec = 20 parts/min = 1200 parts/hr = 9600 parts/day = 2,400,000 parts/yr
- at 85% efficiency (scrap, down-time, breaks, etc.), production would be 2,040,000 parts/yr

*If half-covers are required, then a second shift would be needed with removable inserts in the molds in order to achieve the same production rate*

### Material Parameters:

Ratio of Materials: 38:100 (Iso:Poly)  
Chemical system: Bayflex MP-10000  
Smallest Shot: 32 grams  
Largest Shot: 204 grams

AUG 04 '97 09:47AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.7/15

---

**SECTION THREE**

---

**PRICE AND DELIVERY****Price**

Summarized below are the prices of the equipment.

<u>ITEM</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>	<u>PRICE</u>
001	One (1)	10' Rotary Table (with drive and and safety fence)	99,400
002	Tcn (10)	1-Ton Mold Carriers (pneumatic, air-bag for sealing, 90 deg. tilt)	137,000
003	One (1)	Two-Stream Metering System (with MQ 8-2, SPC Package, variable speed drives, agitators, tempered water unit, feed pumps, mold ID, auto-fill, flowmeters)	195,000
004	One (1)	Single-axis Mixhead Positioner	10,000
005	One (1) Lot	Control Panels	44,000
006	One (1) Lot	Infra-Red Heat Bank	8,400
007	One (1) Lot	Table Utilities (mold heating, system, air, electric)	36,000
008	One (1)	Manual Mold Release System	3,000
009	One (1) Lot	Field Supervision (2 man-weeks) and Start-up (2 man-weeks)	24,000
<hr/> Total Items 001-009			<hr/> \$ 556,800

AUG 04 '97 09:47AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.8/15

**MOLDING LINE INSTALLATION QUOTE:**

101                      One (1) Lot                      Installation of Items 001-009

Total, Item 101

\$ 57,800

**GRAND TOTAL FOR ALL ITEMS QUOTED:**

**\$ 614,600**

***Pricing as quoted is:***

- \* F.O.B. Lawrence, Pennsylvania
- \* exclusive of any applicable taxes, makeup air, ventilation, and freight
- \* valid for a period of thirty (30) days

**DELIVERY**

Delivery can typically be achieved within 18-22 weeks after receipt of order and finalization of critical details. Shipment is subject to change based upon shop load in effect at time of order.

AUG 04 '97 09:47AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.9/15

---

# **SECTION FOUR**

## **TERMS**

### **General Conditions**

This proposal is governed by Bayer's Terms and Conditions -  
Equipment Sales, copy enclosed.

### **Terms of Payment**

Progress payments as follows:

- \* 10% - down payment at time of order
  - \* equal monthly payments up to 90% prior to shipment
  - \* 10% - upon successful checkout, not to exceed 30 days after shipment
- Interest at the rate of 1-1/2% per month will be charged on all payments  
which are more than fifteen (15) days beyond the due date.  
Terms are subject to credit review.



AUG 04 '97 09:48AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.10/15

---

## **SECTION FIVE**

# **DESCRIPTION OF THE EQUIPMENT**

**ITEM NO.****DESCRIPTION**

001

10' Rotary Table (with drive). Heavy duty design constructed in multiple sections for the support of 10 mold carriers plus various utility and control piping and wiring. Table is supported by a center hub as well as casters beneath each mold riding on a floor track.

Drive is a three-phase servomotor which turns a large sprocket through a gear reducer. The sprocket engages a chain welded to the periphery of the turntable, an arrangement which minimizes backlash and inaccuracies due to long-term chain stretch and wear.

A rotary union (for air and water) and electrical slip ring (for control signals) are mounted at the center hub to allow operation of the mold carriers and provide water for heating of molds.

A chain-link safety fence around the table perimeter is provided for operator safety. This fence will have openings at the work platform and a gate by the drive. This will be designated the maintenance area as it will have access to the table drive and fixture.

AUG 24 '97 09:48AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.11/15

ITEM NO.DESCRIPTION

002

1-Ton Mold Carriers (Pneumatic). Hennecke designed fixtures for mounting of Purchaser's molds. Table is capable of handling 10 fixtures. Dimensions of platens is assumed to be approximately 18" wide by 12" front-to-back. The design incorporates vertical travel of up to 1/2" by means of airbags. Control sequence allows for timed deflation of air bags as required. Lid closing / latching will be accomplished pneumatically with mechanical latch. Tilting will be up to 90 degrees and be achieved by means of a tilt cylinder.

003

Two-Stream Metering System. The Hennecke HK 270 (2:1) metering system shall be provided. This consists of a 600 rpm Rexroth 12 pump for isocyanate, and a 1200 rpm Rexroth 12 pump for polyol.

Hennecke standard 60 gallon ASME code day tanks shall be provided, with agitators and proximity switch type auto-fill. Return-side plate-and-frame heat exchangers and feed pumps are provided to allow control of temperatures from 15 to 50 degrees C (+/- 1 degree C). The well-proven MQ 8-2 mixhead is provided which includes the ultimate in versatility for PU foam production:

- adjustable transverse throttling piston allows variation of mixchamber backpressure, multiple size, adjustable position pour orifices (hydraulically actuated needle nozzle injectors) allow independent adjustment of injection pressures and "spray" patterns within the mix-chamber
- externally located adjustable backpressure control valves allow balancing (and even deliberate unbalancing) of pour and recycle pressures to eliminate lead/lag problems
- A heavy duty 3000 psig pump with reservoir, level gage, pressure switch, temperature switch, and oil cooler (air or water; to be specified at time of order) is included. This provides hydraulic fluid to the manifold with accumulators and all required directional and control valves to operate the head.

AUG 24 '97 09:48AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.12/15

ITEM NO.DESCRIPTION

003

Two-Stream Metering System (continued).

- Variable frequency AC controllers for metering pumps, controlled by a proprietary Hennecke subroutine which generates and continually updates a pump output vs. speed algorithm. These variable speed drives will allow "on-the-fly" changes on throughputs and ratios from the pumps.
- Flowmeters, temperature transducers, pressure transmitters, etc. will be tied into the mold identification system/PLC to complete the SPC Package. This package includes SPC software to capture and trend data, alarms, etc.
- Mold identification will be by means of a limit switch system. Each mold on turntable will designate a shot time in the control panel.
- Tempered water unit consists of a single 5-ton chiller tied in with heating of the materials accomplished by means of electrical blankets on the day tanks tied into the PLC for control), to supply water at the proper temperature to the chemical heat exchangers. Condenser can be air-cooled or water-cooled (to be specified at time of order).
- Throughput of the machine will be from 60 to 135 grams/sec. Shot weights which are lower than 60 grams can be easily accomplished with shot times of less than one second. Accuracy and repeatability are key factors of Hennecke's HK machine with MQ mixhead. We can easily achieve shot accuracy of +/- 1%.

004

Single-axis Mixhead Positioner. A single-axis mixhead positioner is provided to inject material into multi-cavity molds. Mixhead and hoses will be mounted onto positioner for operator-free handling of pouring and tracking sequence.

AUG 04 '97 09:48AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.13/15

<u>ITEM NO.</u>	<u>DESCRIPTION</u>
005	<u>Control Panels.</u> A single main control panel utilizes an Allen Bradley processor which will contain table drive and Infra-Red heat bank controllers, variable speed drives, etc. An I/O panel will be located on the turntable to run the molds. Also, an E-stop will be located near the workers for operator safety.
006	<u>Infra-Red Heat Bank.</u> For drying of molds after release agent is sprayed, an infra-red heat bank will be provided. IR elements will directly face mold face for quick drying of mold release.
007	<u>Table Utilities (Mold Heaters, Air, Electric).</u> Customer supplied compressed air will be tied into the rotary union for operation of mold carrier air bags and mold lids. Electric is provided for control sequencing. Water will also be tied into rotary union for supply of heated water to individual molds to help maintain adequate pour temperatures.
008	<u>Manual Mold Release System.</u> Spray gun with drum pump and up to 30' of hose will be supplied for application of mold release to the molds. Infra-Red heat bank will then dry the mold release at the following station.
009	<u>Field Supervision.</u> Installation and Start-up Assistance covered by three trips by a qualified Hennecke technical service representative with a cumulative duration of up to 20 working days (Monday through Friday, 8 hours per day) including associated travel and living expenses. Additional service time is available a hourly rates plus expenses.

AUG 04 '97 09:49AM MILES HENNECKE MACH 412 746 1334  
Hennecke Proposal No. 97S-0218

P.14/15

---

**INSTALLATION:**

101

**Installation.** Hennecke will provide all labor, consumable materials, grout, and construction equipment required to install the Hennecke-supplied equipment. A non-union contractor will be utilized, and costs are based upon the contractor being allowed free and continuous access to the work area during the construction period. An adequate laydown area for tools and equipment is required along with access to compressed air, electric power, potable water, and sanitary and first aid facilities. Contractor will conform to applicable plant safety regulations but will require timely provision of welding permits, etc. to maintain an efficient sequence of work. Costs are based on single shift work; weekend/holiday and overtime premiums are not included. Purchaser is to provide receiving area, general site security, and Builder's All Risk Insurance.

Customer will need to supply utilities to an overhead point: power drops to the main control panel and table (460 Volt / 3 Phase), plant air to turntable rotary union and also to the foam machine. *Civil work (foundations, dikes, etc.) will be responsibility of Customer. Hennecke will grout and install the turntable into place. We will also provide all the interconnecting piping and electrical work for system installation.*

---

---

## **SECTION SIX**

# **SUBMITTAL AND ACCEPTANCE**

### **SUBMITTAL**

This proposal is submitted by Bayer Corporation,  
Hennecke Machinery as an offer to sell the equipment  
and/or services described here to Wilson Sporting Goods.

### **ACCEPTANCE**

This proposal has been reviewed and is accepted on  
behalf of Wilson Sporting Goods.

BY:

SIGNATURE:

TITLE:

DATE:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Polymers Division

**Design  
Engineering  
Services  
Fax**

From:  
**Dave Rocco**  
Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205

Fax Number:  
**(412) 777-7849**

Phone Number:  
**(412) 777-3206**

E-mail:  
**dpr@mtpu39.pitts.miles.com**

**Notice of Confidentiality:**

The information contained in and transmitted with this facsimile may be confidential and/or exempt from disclosure under applicable law and is intended only for the individual or entity named above. If you are not the intended recipient, you are hereby notified that inadvertent disclosure of this information to you does not constitute a waiver of confidentiality and that any review, disclosure, copying, or use of the contents of this facsimile are prohibited. If you have received this facsimile in error, please immediately call Bayer Corporation collect at (412) 777-3206 so that we can arrange for the return of the original facsimile at our cost.

To: **Frank Suareo**  
Company: **Wilson Sporting Goods**  
Fax Number: **(912)987-1290**  
Phone Number: **(912)987-0405**  
Date: **August 15, 1997**  
Number Of Pages: **8 (Including This Page)**

Reference: Revised Wilson PU Ball Prototype Tool

Mr. Suareo,

Attached is the revised tool concept sketch I spoke of on 8-14-97. I had to move the adapter mounting bolt holes slightly to the right to clear the mixhead. This makes the right side tool thicker down at the bottom. The right side tool can be solid 2.5" thick or stepped down as I show it.

Also attached is a complete new package of drawings related to this design, including the mixhead adapter detail.

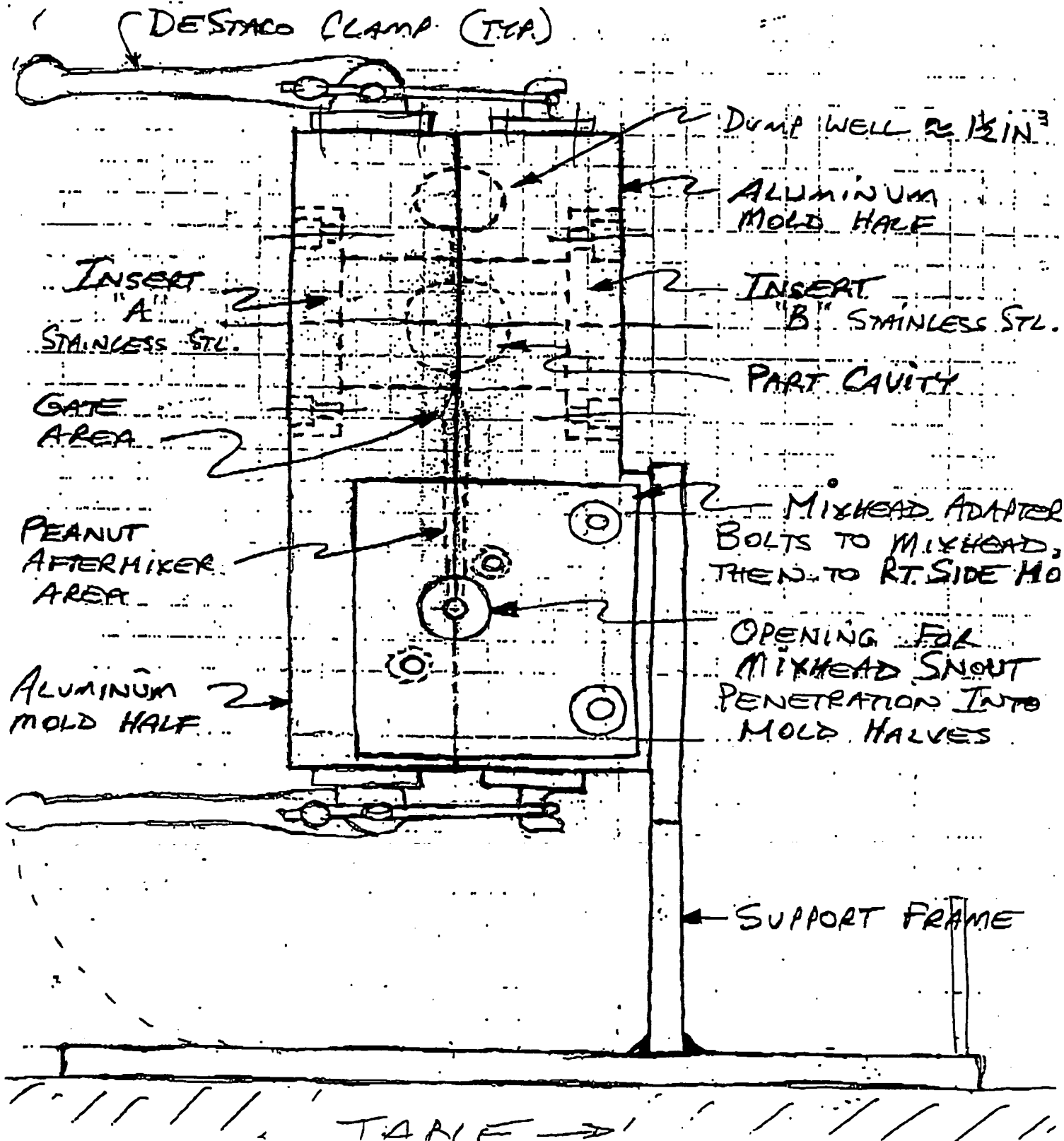
Please destroy all previous drawings and use the new set only.

If you have any questions please give me a call at (412)777-3206.

Dave Rocco

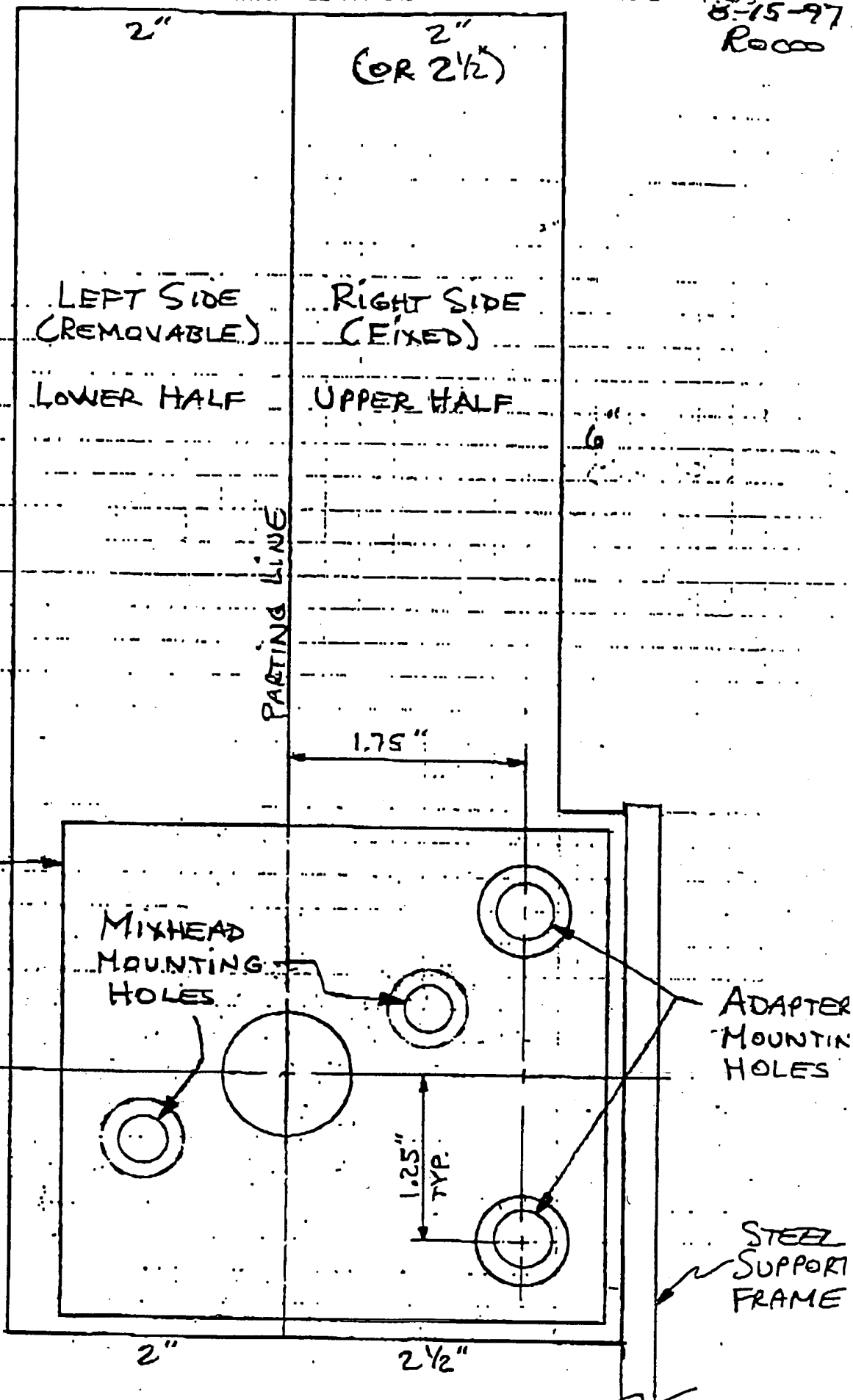
NILSEN GUN BALL  
 PROTOTYPE TOOL CONCEPT  
 SIDE ELEVATION  
 REVISION #1

ROCCO

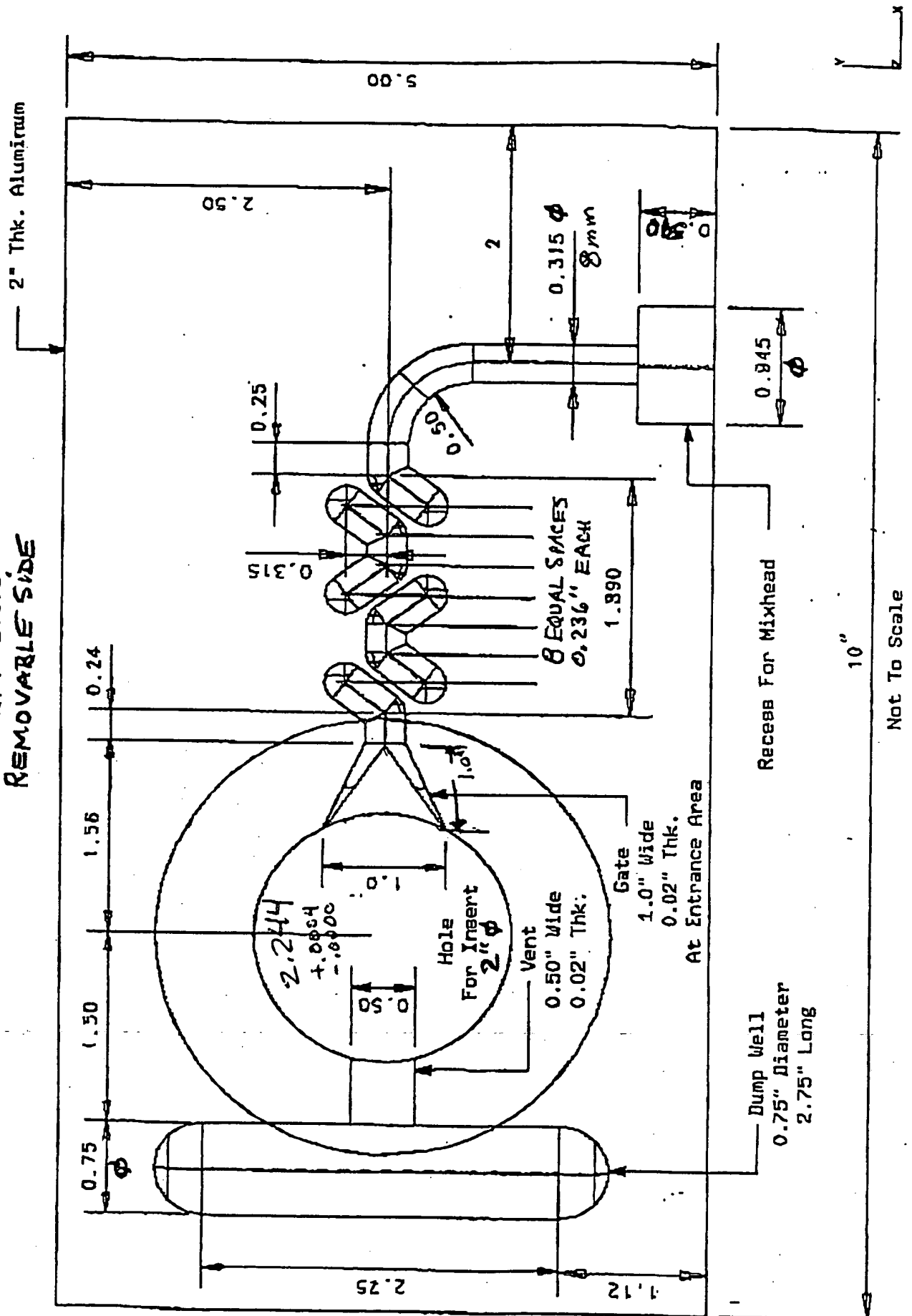




WILSON  
REVISED  
GOLF BALL  
TOOL  
(FULL SCALE)



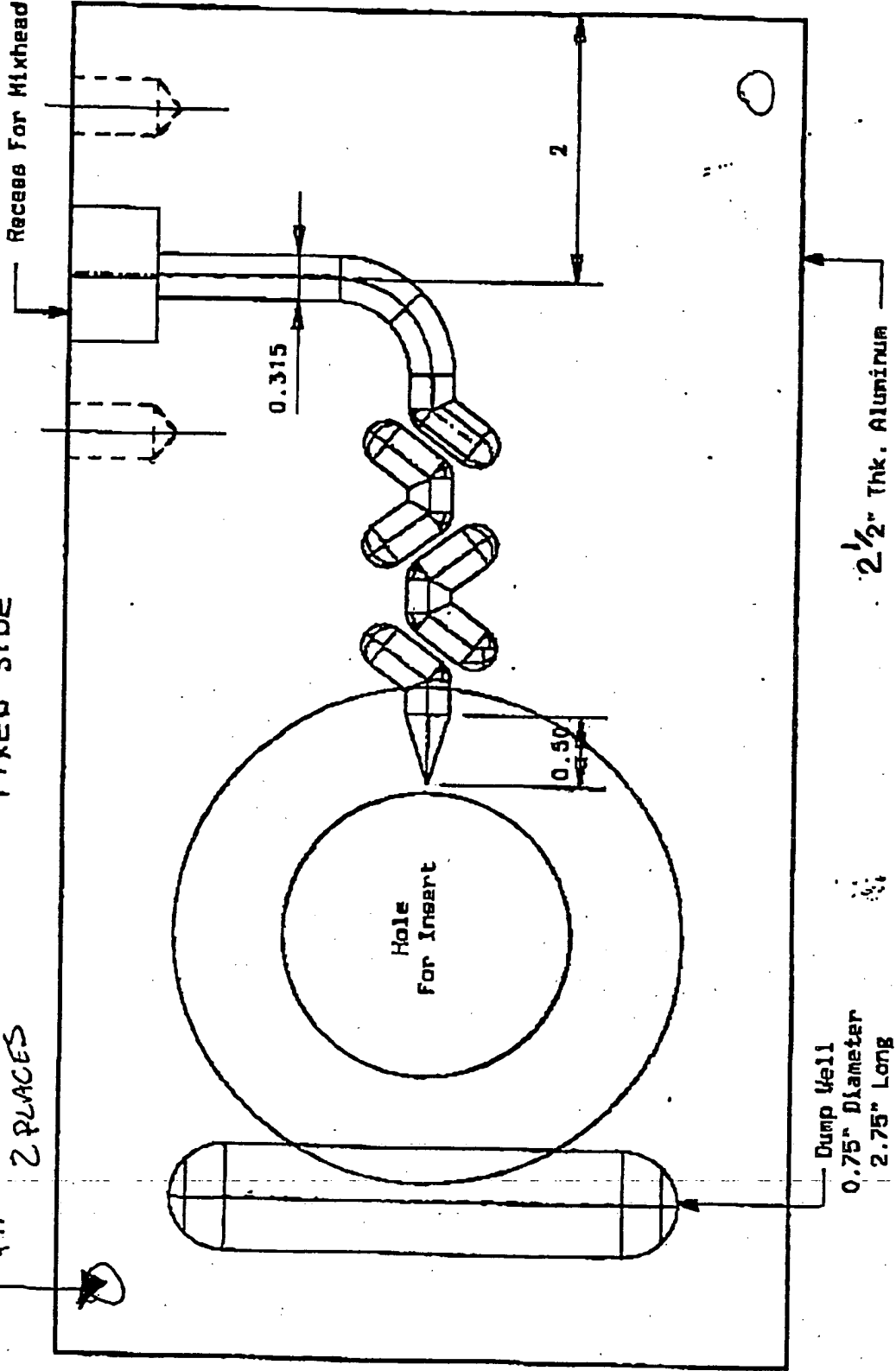
REMOVABLE SIDE



8-15-97  
Rocco

Wilson Prototype Ball Tool  
Upper Mold Half  
RIGHT SIDE  
FIXED SIDE

(LEADER)  
LOCKING  
PINS  
2 PLACES



WILSON GOLF BALL  
PROTOTYPE TOOL CONCEPT

D. Rocca  
8-15-97

08/22/2002 THU 6:38 FAX

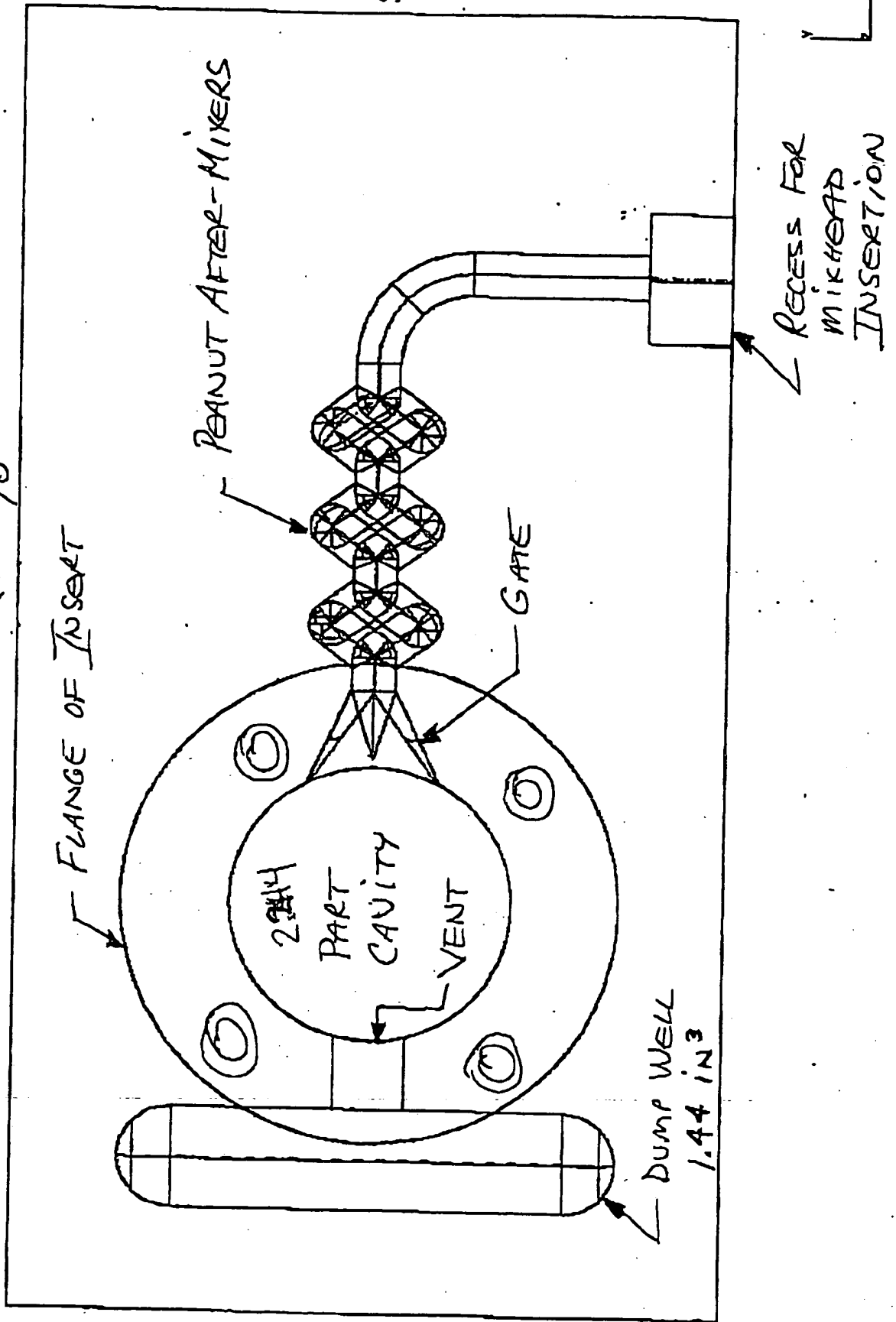
AUG. 28. 1997 8:31AM

BAYER DESIGN GROUP 412 7777849

NO. 642

P. 7/9

008/033





Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

August 25, 1997

Mr. Jerry Matheny  
Wilson Sporting Goods  
2330 Ultra Drive  
Humboldt, TN 38343

Subject: Laboratory RIM Molding Unit

Reference: Hennecke Proposal No. 97S-0226

Dear Mr. Matheny:

Per your discussions with Mr. Dave Rocco, the following is a quotation for the complete RIM molding laboratory unit for your review and consideration.

I hope that this proposal meets your needs. If you have any questions, please do not hesitate to give me a call.

Very truly yours,

Jack T. Ferrand  
Technical Sales Specialist  
Hennecke Machinery  
(412-777-3666)

cc: T.T. Roschberry / A.S. Mehls / E.W. Catebott / H.M. George / D.P. Rocco



Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

# *Proposal*

Hennecke Machinery

*For*

**Wilson Sporting Goods**  
(Humboldt, TN)

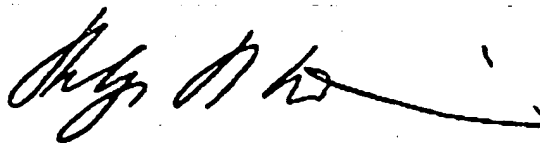
High-Pressure Polyurethane Metering System  
Hennecke Proposal No. 97S-0226  
August 22, 1997

Bayer Corporation | Quality Policy

We at Bayer are committed to quality. Our commitment requires our dedication to and involvement in Continuous Improvement.

It is our policy to develop, produce and deliver products and services that consistently satisfy the requirements of our customers.

Our objective is right-the-first-time performance.



Helge H. Wehmeier

President and CEO

August-1995

Hennecke Proposal No. 97S-0226

---

# *Contents*

## SECTION

Summary	1
Price and Delivery	2
Terms	3
Description of the Equipment	4
Submittal and Acceptance	5



Hennecke Proposal No. 97S-0226

---

# SECTION ONE

## Summary

This proposal includes the Polyol and Isocyanate handling equipment from the day tanks to the dispensing of chemicals. The wet system package is mounted onto a frame that is designed for ease of installation at your location. We have included project management, design engineering and training. We have not included anything not specifically mentioned. In particular, we have excluded freight, utilities supply, site preparation, installation, start-up assistance (can be purchased at the attached rate sheets), and electrical power distribution panel. Taxes, permits, etc. have also not been included.

The entire system will be set up and tested in our plant. We will check all aspects of the equipment except we will use Mesamoll in place of the iso and polyol. At the time we are checking out this equipment, we will invite you and your staff to witness this test and obtain training on the pumps, mixheads, etc.

The foam machine requires connection to power (480 Volt - unless otherwise specified), compressed air (100 psig, oil-free), dry air (80 psig, -40 degree dewpoint) and tempered water to the heat exchangers. These utilities are to be provided by the Purchaser.

Hennecke Proposal No. 97S-0226

---

# SECTION TWO

## PRICE AND DELIVERY

### Price

Summarized below are the prices of the equipment.

A.	<u>ITEM</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>	<u>PRICE</u>
	001	One (1)	Polyol Day Tank System	
	002	One (1)	Isocyanate Day Tank System	
	003	One (1)	Polyol Heat Exchanger Package	
	004	One (1)	Isocyanate Heat Exchanger Package	
	005	One (1)	HK-55, 2-Component Compact Metering Unit	
	006	One (1)	MQ 8-2 Mixhead	
	007	One (1)	Mixhead Hydraulic Unit	
	008	One (1)	Push button Box w/ Shot Timers	
	009	One (1)	Main Control Panel w/ DTAM	
	010	One (1)	Metering Unit Frame w/Boom	
	011	One (1) Lot	Shop Assembly and Testing	
	012	Two (2)	Operating and Maintenance Manuals	
	013	One (1)	Agitator for Polyol Tank	
	014	One (1)	Agitator for Iso Tank	
	015	One (1)	Elect. Trace Polyol Tank	
	016	One (1)	Elect. Trace Iso Tank	
	017	Five (5) Days	Installation / Start-up Assistance	

---

Total, Items 001-017

\$ 100,860

Hennecke Proposal No. 97S-0226

---

Pricing as quoted is:

- \* F.O.B. Lawrence, Pennsylvania,
- \* exclusive of sales tax, freight, and all installation labor and materials,  
including ventilation and makeup air
- \* valid for a period of thirty (30) days

## DELIVERY

Delivery can typically be achieved within 8-12 weeks after receipt of order and finalization of critical details. Shipment is subject to change based upon shop load in effect at time of order.

Hennecke Proposal No. 97S-0226

---

## ***SECTION THREE***

### ***TERMS***

#### **General Conditions**

This proposal is governed by Bayer's Terms and Conditions - Equipment Sales, copy enclosed.

#### **Terms of Payment**

Progress payments as follows:

- \* 30% - down payment at time of order
  - \* equal monthly payments up to 90% prior to shipment
  - \* 10% - upon successful checkout, not to exceed 30 days after shipment
- Interest at the rate of 1-1/2% per month will be charged on all payments which are more than fifteen (15) days beyond the due date.  
Terms are subject to credit review.

Hennecke Proposal No. 97S-0226

---

## ***SECTION FOUR***

# ***DESCRIPTION OF THE EQUIPMENT***

<b>Item</b>	<b>Description</b>
001	<u><b>Polyol Day Tanks.</b></u> Vertical, insulated, 15 gallon, 110 psig, ASME code, stainless steel tanks, with dip tube and removable lid. Instrumentation includes protected sight gauge, pressure relief valve, dry air pressure regulating valve, pressure gauge, dial thermometer, rupture disc, and a manual valve.
002	<u><b>Isocyanate Day Tank.</b></u> Vertical, insulated, 15 gallon, 110 psig, ASME code, stainless steel, with dip tube and removable lid. Instrumentation includes protected sight gauge, pressure relief valve, dry air pressure regulating valve, pressure gauge, dial thermometer, rupture disc, and a manual-fill valve.
003	<u><b>Polyol Heat Exchanger Package.</b></u> A plate and frame heat exchanger to ensure temperature control of material.
004	<u><b>Isocyanate Heat Exchanger Package.</b></u> A plate and frame heat exchanger to ensure temperature control of material.
005	<u><b>HK 55, 2-Component Compact Metering Unit.</b></u> One Bosch (for polyol) and one Bosch (for Iso) piston pumps. Each pump is equipped with suction side strainer, low inlet pressure switch, high and low discharge pressure switches, suction and discharge pressure gauges, and rupture disc. Pump motors are individual for each stream - 4.5 HP (nominal), 600 rpm, for polyol, 4.5 HP (nominal) 600 rpm for iso, and each use 460 Volt, 3 phase, 60 cycle power.

## Hennecke Proposal No. 97S-0226

Item	Description
006	<p><b><u>MQ 8-2 Mixhead.</u></b> Hennecke MQ 8-2, two-component, piston cleaned, re circulating, high pressure impingement mixhead.</p> <p>Features include <i>adjustable transverse piston for improved mixing and laminar flow</i> and adjustable hydraulic synchronized injection nozzles to prevent lead/lag. Nozzle design allows low pressure re circulation and <i>calibration through the mixhead.</i></p> <p>Recycle pressures are controlled by adjustable back pressure control modules with solenoid controlled cartridge valve assemblies, which bypass the modules, allowing low pressure recycle. Pressure gauges, service valves, and 10' of interconnecting hose are included.</p>
007	<p><b><u>Mixhead Hydraulic Unit.</u></b> Heavy duty, industrial quality, high pressure Rexroth unit. Package is designed for 3000 psig operating pressure and includes all necessary controls, valves, accumulators, etc.</p>
008	<p><b><u>Push button Box.</u></b> Located at a remote location is a NEMA 12, push-button panel to initiate pours. Box will include four shot buttons to access programmed shot times from the PLC and buttons to manually cycle other mixhead functions. Box also includes an Emergency Stop button.</p>
009	<p><b><u>Main Control Panel.</u></b> NEMA 12 enclosure with status lights, motor starters, and operator controls. An Allen-Bradley SLC will be supplied complete with a Data Terminal Access Module (DTAM) for operator interface. The controls will be configured to accept a third and fourth stream at a later date.</p>
010	<p><b><u>Metering Unit Frame w/ Boom.</u></b> The metering pumps, hydraulic power unit, and valve stand shall be mounted on an open steel frame with all necessary interconnecting piping, wiring, and hose. A boom (5' x 8' high) with balancer will be attached to the beam that will hold the mixhead and allow it to be moved vertically and horizontally.</p>

## Hennecke Proposal No. 97S-0226

Item	Description
011	<u>Shop Assembly and Testing.</u> The frame-mounted equipment shall be connected to the other items, including mixhead, with temporary wiring and hose and functionally tested using inert fluid. Purchaser is invited to witness the shop test and receive hands-on instruction in machine operation and maintenance.
012	<u>Operating/Maintenance Manuals.</u> Two (2) sets complete with necessary procedures, drawings and spare parts lists.
013	<u>Polyol Agitator.</u> Polyol day tank air agitator to ensure homogeneity of additives and temperature consistency of material. <i>Agitator will be air.</i>
014	<u>Iso Agitator.</u> Iso day tank air agitator to ensure homogeneity of additives and temperature consistency of material. <i>Agitator will be air.</i>
015	<u>Elect. Traced polyol tank</u> Provide an electric tracing system with control from the existing PLC to pre heat and maintain process chemical temperature during operation.
016	<u>Elect. Traced Iso tank</u> Provide an electric tracing system with control from the existing PLC to pre heat and maintain process chemical temperature during operation.
017	<u>Installation and Start-Up Assistance.</u> One technical service person for five (5) consecutive working days (Monday through Friday, 8 hours per day) of assistance. Assistance will be to start-up the machine and provide extra training if time permits. Additional assistance can be purchased if needed at hourly rates plus expenses as indicated on the attached rate sheet.



## SERVICE ASSISTANCE RATE SCHEDULE

### SERVICE ASSISTANCE

Hennecke Machinery service personnel are Factory-Trained Specialists. They have the know-how and the tools and the equipment needed to work on our machinery. To quickly obtain this service, call or write the above address. Charges for domestic services beyond our normal warranty are made in accordance with the schedule given below.

### SCHEDULE OF FIELD SERVICES CHARGES

#### 1. LABOR CHARGES

#### TECHNICAL SERVICES, ENGINEERING AND PROGRAMMING SERVICES

- |  |              |
|--|--------------|
| (a) WEEKDAYS.....<br>For all hours including travel time,<br>worked by our employee during normally<br>scheduled working hours.<br>(Monday-Friday, 8 hrs/day)                        | \$ 90.00/Hr. |
| (b) SATURDAYS AND OVERTIME.....<br>For all hours including travel time,<br>worked by our employee on Saturdays<br>or any other hours other than normally<br>scheduled working hours. | \$135.00/Hr. |
| (c) SUNDAY AND HOLIDAYS.....<br>For all hours including travel time,<br>worked by our employee on Sundays and<br>Holidays.   | \$180.00/Hr. |

#### 2. EXPENSES CHARGES:

For actual travel and living expenses incurred by our employee from the time he leaves home base to the time he returns to that base.

#### 3. PURCHASE ORDERS:

All requests for Field Service must be confirmed by a written purchase order.

EFFECTIVE: MARCH 1, 1995





Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

## WARRANTY ADMINISTRATION PROCEDURE

### IMPORTANT INFORMATION YOU SHOULD KNOW

- Customer Assistance

Bayer, Hennecke Machinery is available to assist you with all your equipment needs. If you have questions or concerns, please call the Customer Service Team toll-free number 1-800-662-2927, Ext. 3659

- The Warranty Period

The warranty expires six (6) months after the introduction of chemicals to the equipment, but shall not exceed nine (9) months from the original equipment ship date.

- Maintain Your Equipment

Proper equipment maintenance is the responsibility of the owner. Bayer, Hennecke Machinery recommends that you read your operation and maintenance manual for proper instructions, keep records and receipts in case a question arises as to whether a malfunction is caused by a defect in factory-supplied materials or workmanship or lack of proper maintenance

- Where To Go For Service

To obtain warranty repairs or service, Bayer, Hennecke Machinery recommends that you please review the listed "non warranty" items then contact the Customer Service Team, who wants to ensure your continued satisfaction with the equipment you purchased, and request a return authorization package. We will, however, require the owner to:

- Issue a valid purchase order, identifying parts or service required. (To cover costs of replacement, service and inspection).
- Provide, if applicable, the serial number of the equipment or component in question.
- Describe in detail the failure or malfunction.

After receipt of returned goods or completion of the service call, a complete evaluation will be done and a warranty report will be sent to the owner with, if any, credit due.



## **TERMS AND CONDITIONS EQUIPMENT SALES AND INSTALLATION**

Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

### **1. Effect of Proposal**

All work performed by Seller pursuant to Buyer's purchase order, authorization, or any acceptance documents shall be deemed to have been performed under this proposal. This proposal, together with the documents attached hereto or incorporated by reference herein shall constitute the entire agreement of the parties and may not be modified except by a written change order issued by Buyer and accepted in writing by Seller. No terms stated by Buyer in its purchase order or other authorization or acceptance documents shall be of any force or effect unless expressly incorporated herein by Seller and Buyer is hereby notified of Seller's objection to and rejection of any additional or different terms in Buyer's purchase order, authorization, acceptance documents, or other forms. **THIS PROPOSAL IS EXPRESSLY LIMITED TO ACCEPTANCE UPON THE TERMS AND CONDITIONS CONTAINED HEREIN.**

### **2. Warranty**

#### **A. Seller Manufactured Components**

Seller warrants that those portions of the work, materials, and components of the Equipment manufactured by Seller's employees in Seller's plant shall be free from defects in materials and workmanship for a period of six (6) months from the date chemicals are introduced into the Equipment; provided, however, in no event shall the warranty period exceed nine (9) months from the date of shipment. In the event the Equipment fails to conform to the above warranty, Seller shall, at Seller's option, either repair or replace the nonconforming Equipment or portion thereof. Warranty claims must be filed in accordance with Seller's Warranty Administration Procedure.

#### **B. Seller Purchased Components**

Seller shall endeavor to obtain warranties on behalf of Buyer from vendors, subcontractors, and suppliers of Seller with respect to those portions of the work, materials and components of the Equipment supplied by them equivalent to those customarily offered in the applicable industry. Buyer shall accept the warranties provided by any such vendor, subcontractor or supplier in lieu of any liability or warranty on the part of Seller with respect thereto.

### **C. Non-Warranty Items**

**ITEMS LISTED IN SELLER'S WARRANTY ADMINISTRATION PROCEDURE ARE EXCLUDED FROM ANY OF THE FOREGOING WARRANTIES. ALL SUCH ITEMS ARE SOLD "AS IS"**

### **D. Limitation of Warranties and Remedies**

**THE FOREGOING WARRANTIES ARE CONDITIONED UPON THE EQUIPMENT BEING USED AND MAINTAINED FOR THE INTENDED PURPOSES IN ACCORDANCE WITH THE INSTRUCTIONS OF SELLER AND ITS VENDORS, SUBCONTRACTORS, AND SUPPLIERS. FAILURES OF THE EQUIPMENT OR ANY PORTION THEREOF DUE TO NORMAL WEAR AND TEAR, ACTION OF CORROSION, EROSION, CHEMICALS, FIRES, AND ANY ACTS OF GOD ARE EXCLUDED FROM THE FOREGOING WARRANTIES. SELLER IS NOT RESPONSIBLE FOR ANY INCORRECT REPAIR OR REPLACEMENT WORK DONE BY THE BUYER.**

**THE TECHNICAL AND NUMERICAL PROVISIONS CONTAINED IN THIS PROPOSAL ARE FOR GENERAL DESCRIPTIVE PURPOSES ONLY AND SHALL NOT UNDER ANY CIRCUMSTANCES BE CONSTRUED TO BE WARRANTIES REGARDING EQUIPMENT CAPABILITIES, CAPACITIES, OR ANY OTHER MATTER.**

**THE FOREGOING WARRANTIES AND REMEDIES FOR BREACH THEREOF ARE EXCLUSIVE. THEY ARE EXTENDED BY SELLER AND ACCEPTED BY BUYER IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REMEDIES, EITHER EXPRESS OR IMPLIED, AND SPECIFICALLY IN LIEU OF ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

### **3. Force Majeure**

**The completion date shall be extended by the delay caused to Seller in whole or in part by any act or occurrence beyond the reasonable control of Seller that**



Polymers Division

**Design  
Engineering  
Services  
Fax**

From:  
**Dave Rocco**  
Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205

Fax Number:  
**(412) 777-7849**

Phone Number:  
**(412) 777-3206**

E-mail:  
**dpr@mtpu39.pirts.miles.com**

**Notice of Confidentiality:**

The information contained in and transmitted with this facsimile may be confidential and/or exempt from disclosure under applicable law and is intended only for the individual or entity named above. If you are not the intended recipient, you are hereby notified that inadvertent disclosure of this information to you does not constitute a waiver of confidentiality and that any review, disclosure, copying, or use of the contents of this facsimile are prohibited. If you have received this facsimile in error, please immediately call Bayer Corporation collect at (412) 777-3206 so that we can arrange for the return of the original facsimile at our cost.

To: **Jerry Matheny**  
Company: **Wilson Sporting Goods**  
Fax Number: **(901)784-5338**  
Phone Number: **(901)784-5335**  
Date: **August 28, 1997**  
Number Of Pages: **9 (Including This Page)**

Reference: Revised Wilson PU Ball Prototype Tool

Mr. Matheny,

I understand you will be doing the prototype golf ball tool design and build in house rather than at Hye Precision Products.

Attached is the complete package of drawings I sent to Frank Suarez on 8-15-97. Frank and I had detailed discussions on these drawings, so please have your tooling engineer give me a call to go over the same.

As I said to Frank, Please destroy all previous drawings and use the new set only.

Dave Rocco

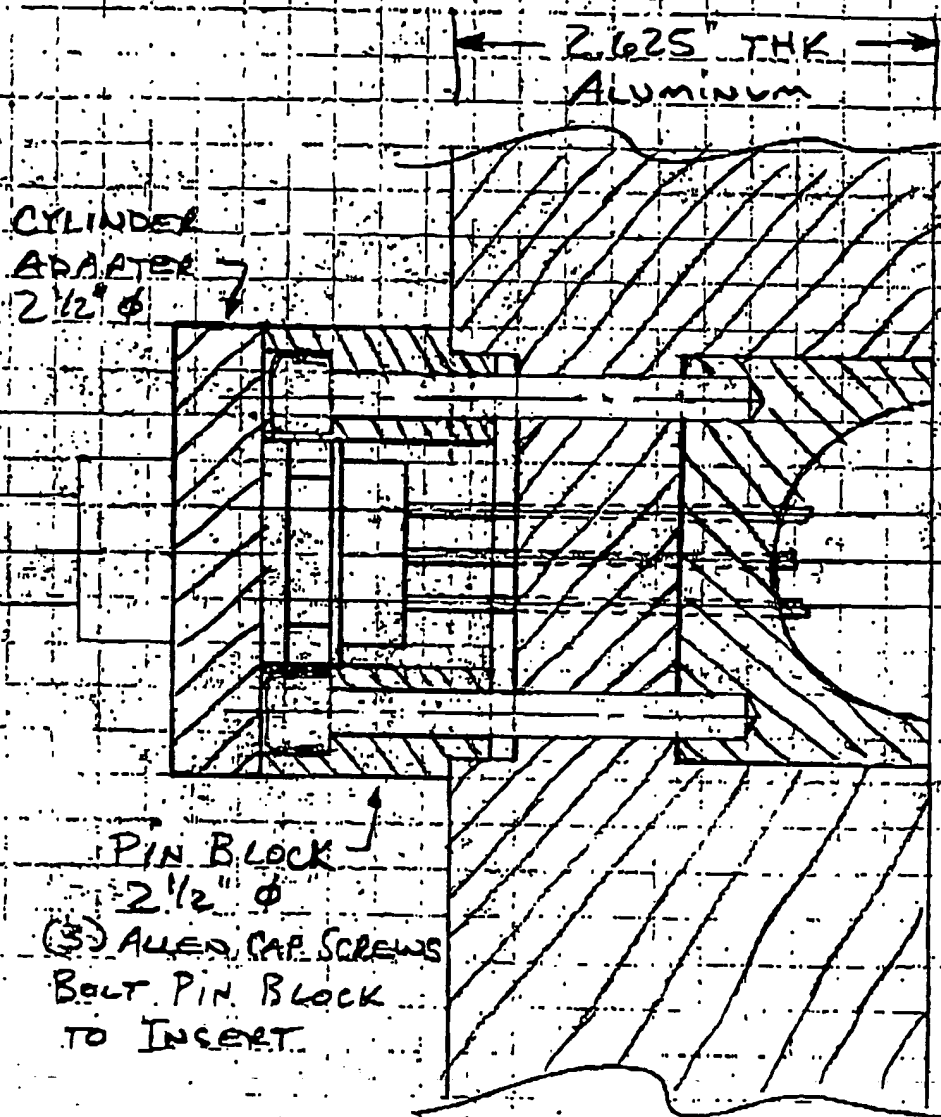
EXHIBIT

E

Blumberg No. 5118

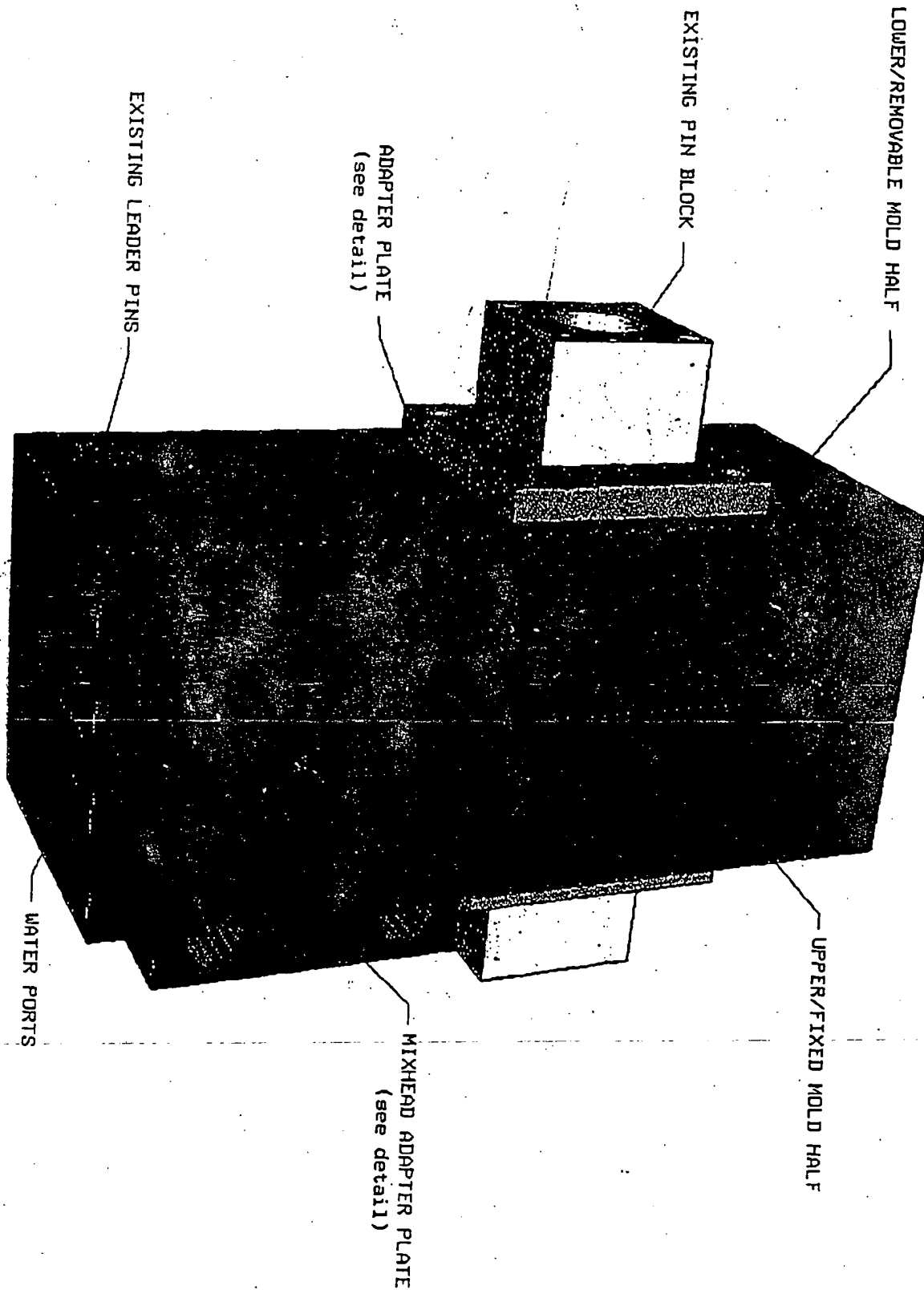
WILSON PROTOTYPE TOOL  
SINGLE PIECE MOLD HALF  
CONCEPT SKETCH  
CROSS-SECTION THRU INSERT

10/14/97  
D. ROCCO



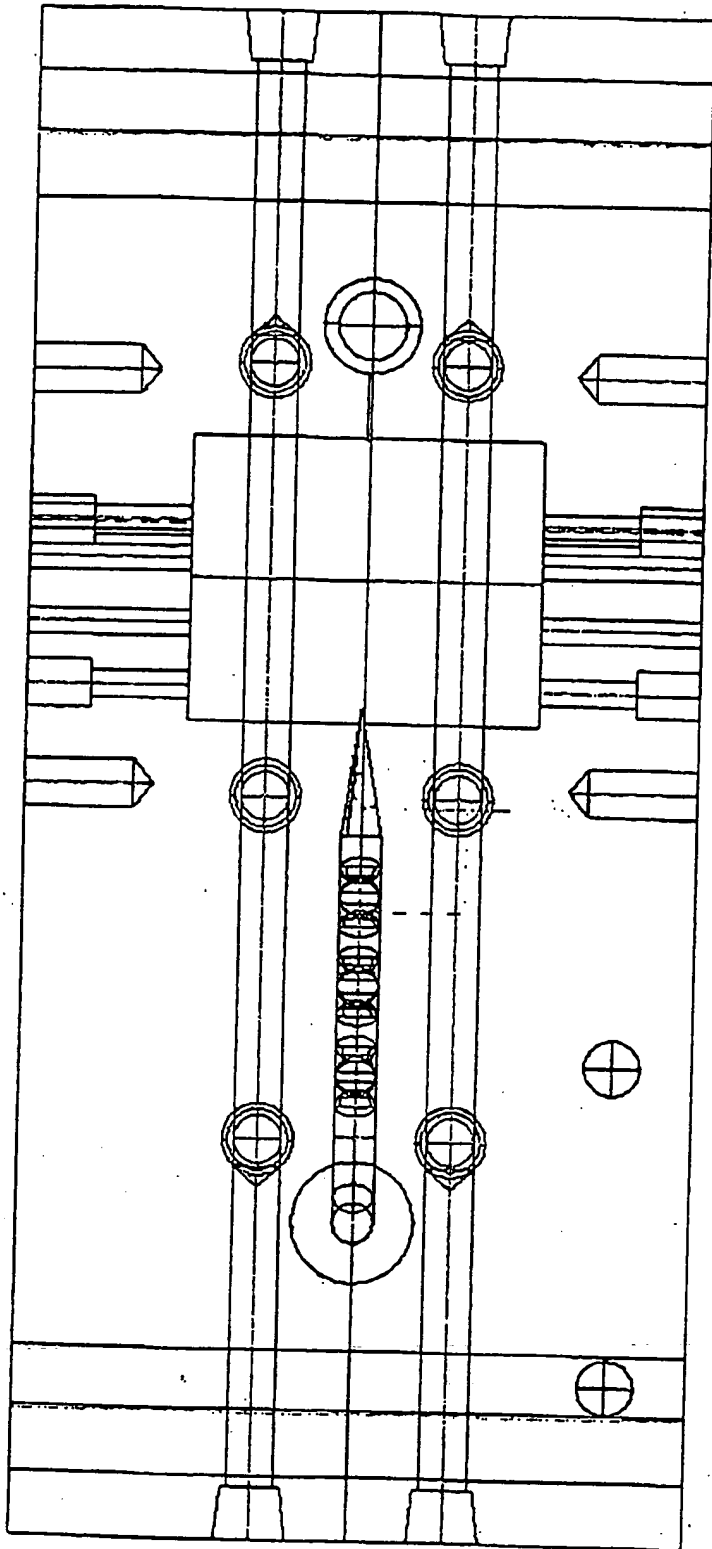
WILSON PROTOTYPE GOLF BALL TOOL  
CYLINDER & ADAPTER NOT SHOWN

DAVID ROCCO  
OCTOBER 28, 1997



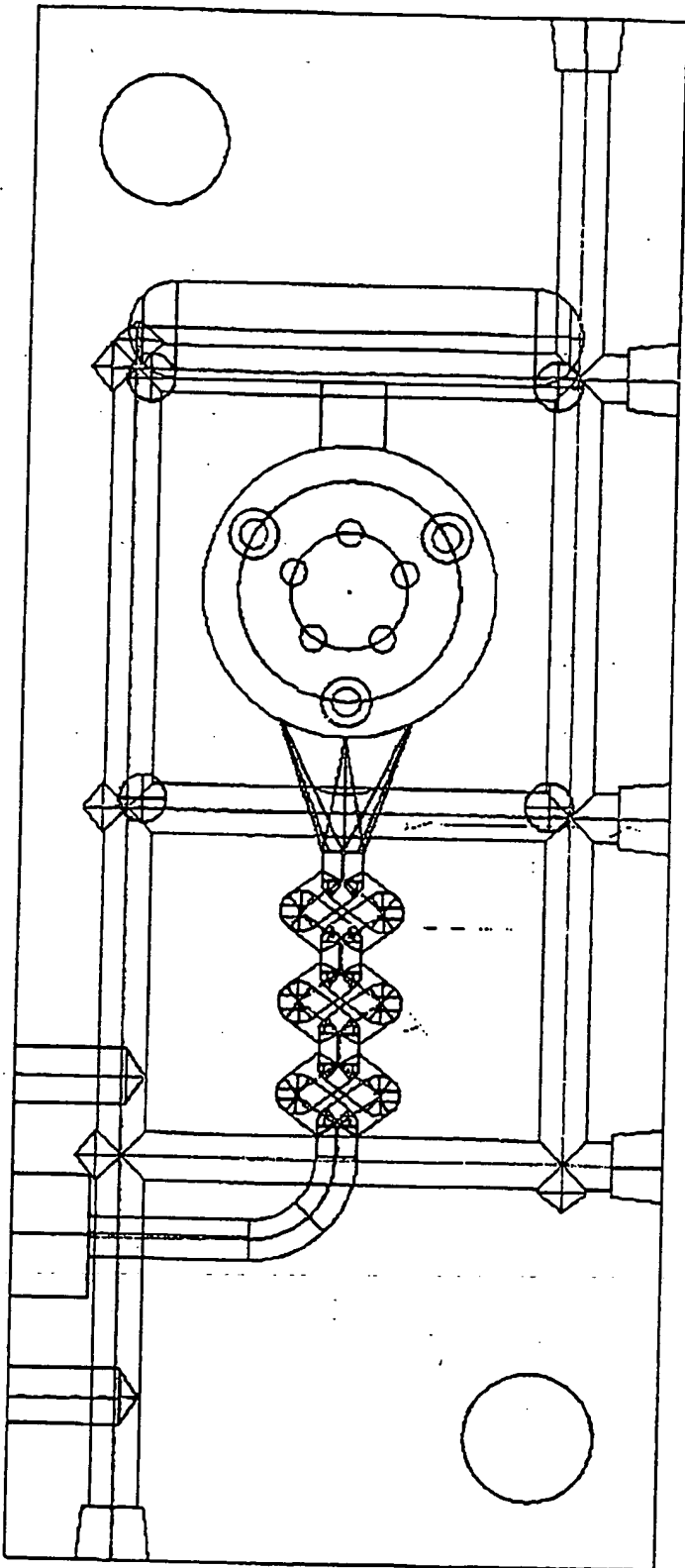
WILSON PROTOTYPE GOLFBALL TOOL  
SIDE ELEVATION VIEW  
BOTH MOLD HALVES SHOWN

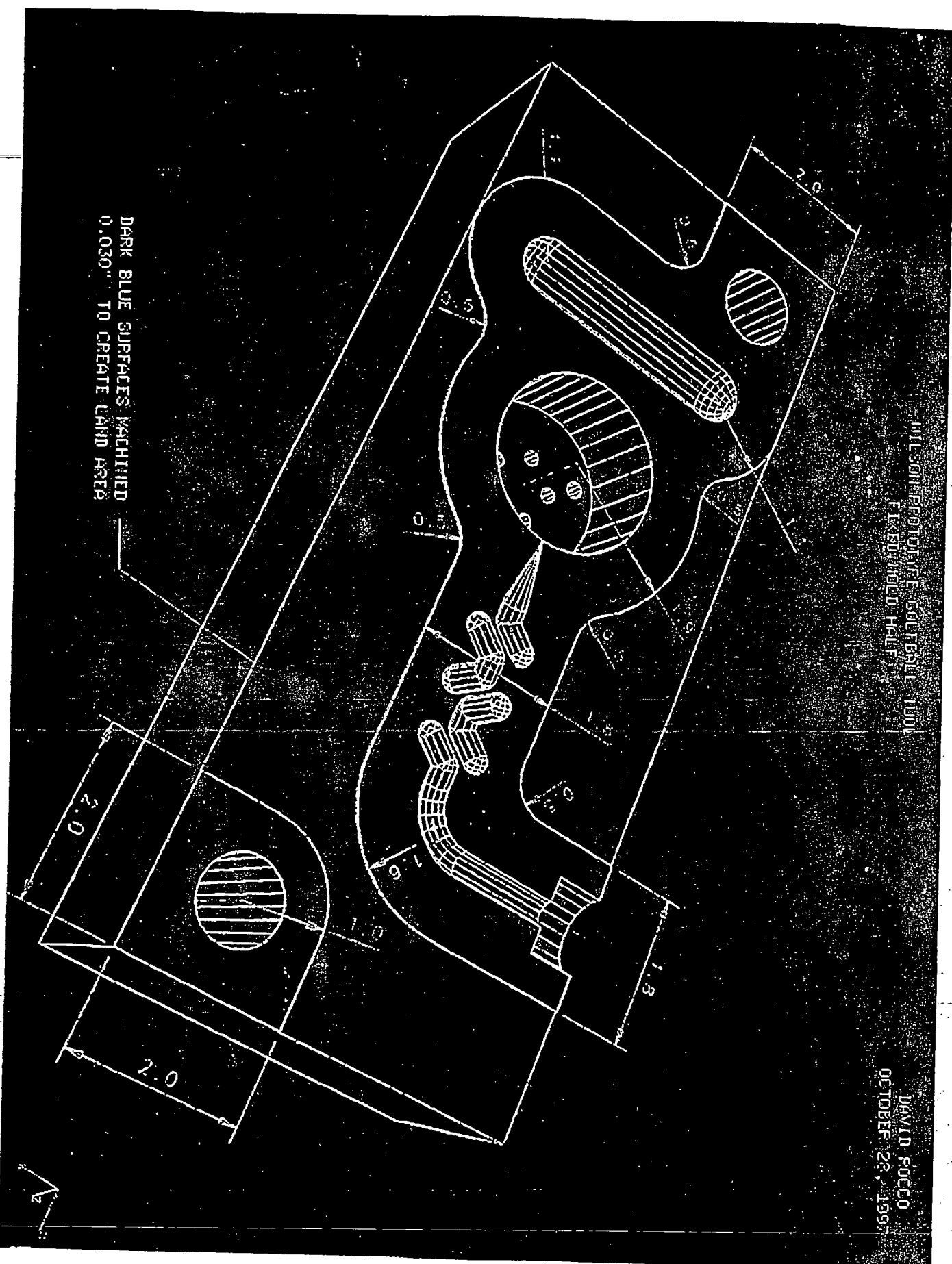
DAVID ROCCO  
OCTOBER 28, 1997



WILSON PROTOTYPE GOLFBALL TOOL  
TOP ELEVATION VIEW  
BOTH MOLD HALVES SHOWN

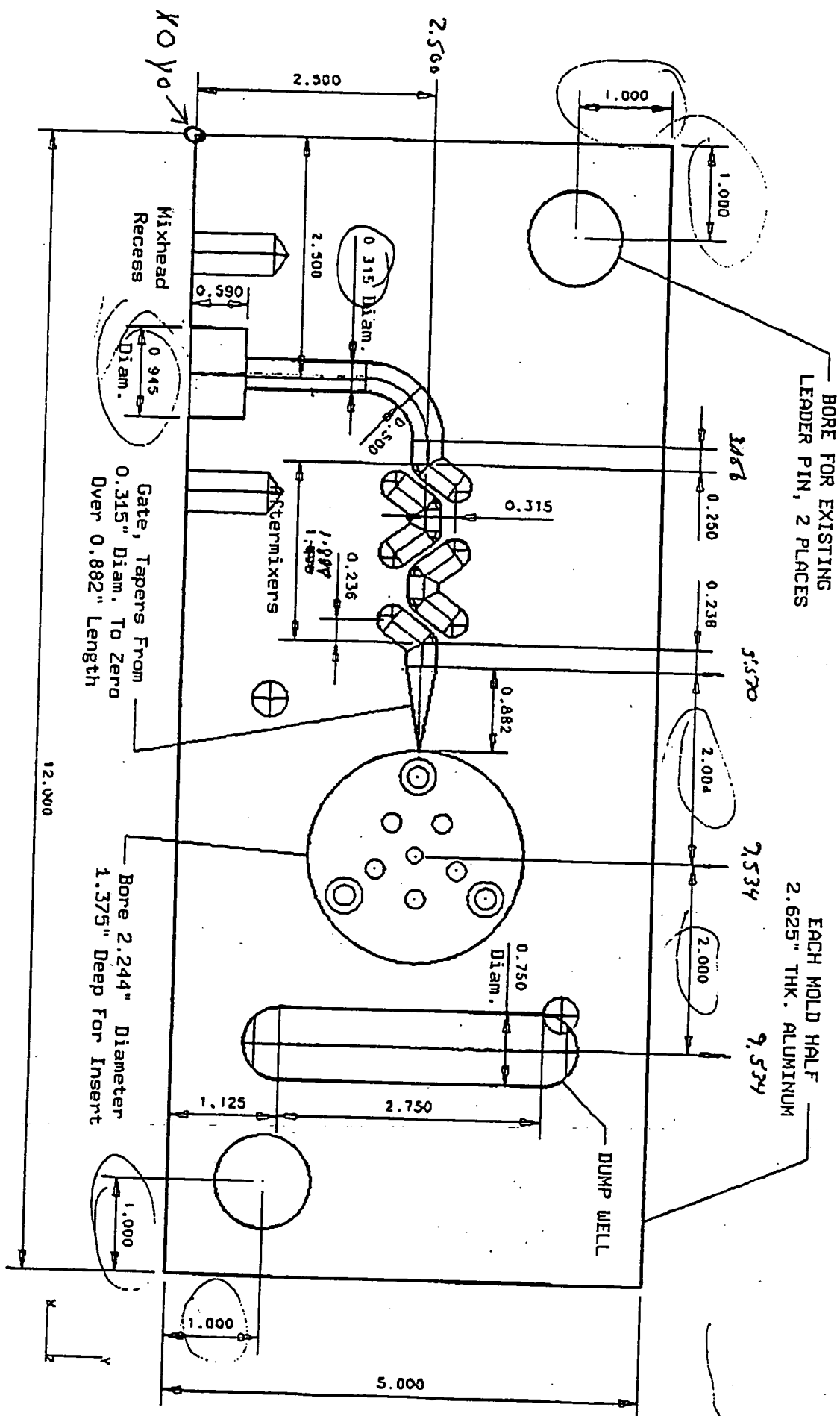
DAVID ROCCO  
OCTOBER 28, 1997







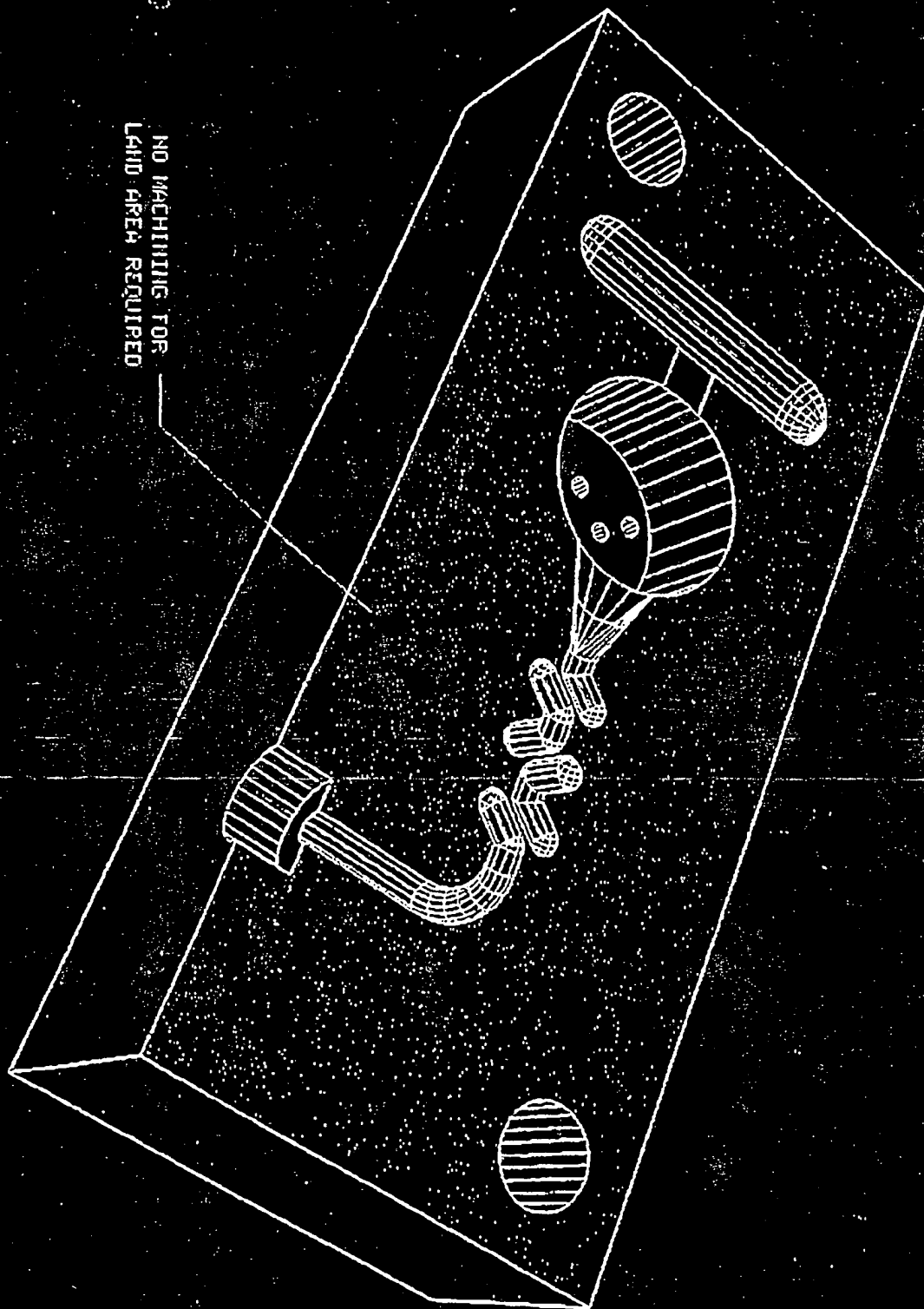
DAVID ROCCO  
OCTOBER 28, 1997



WILSON PROTOTYPE GOLF BALL TOOL  
REMOVABLE MOLT HALF

DAVID POCCE  
OCTOBER 28, 1997

NO MACHINING FOR  
LAMP AREA REQUIRED

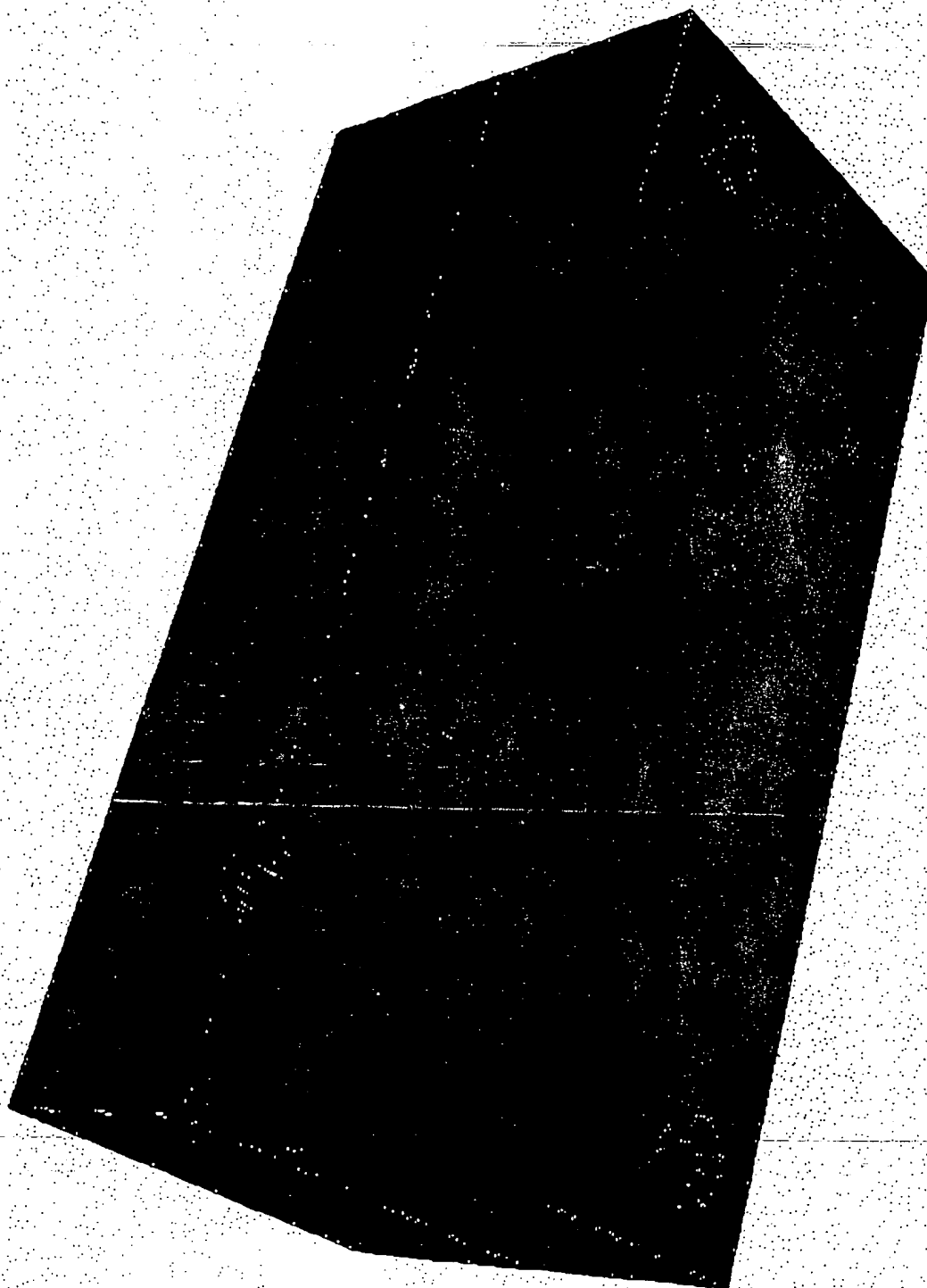


DAVID ROCCO  
OCTOBER 28, 1997



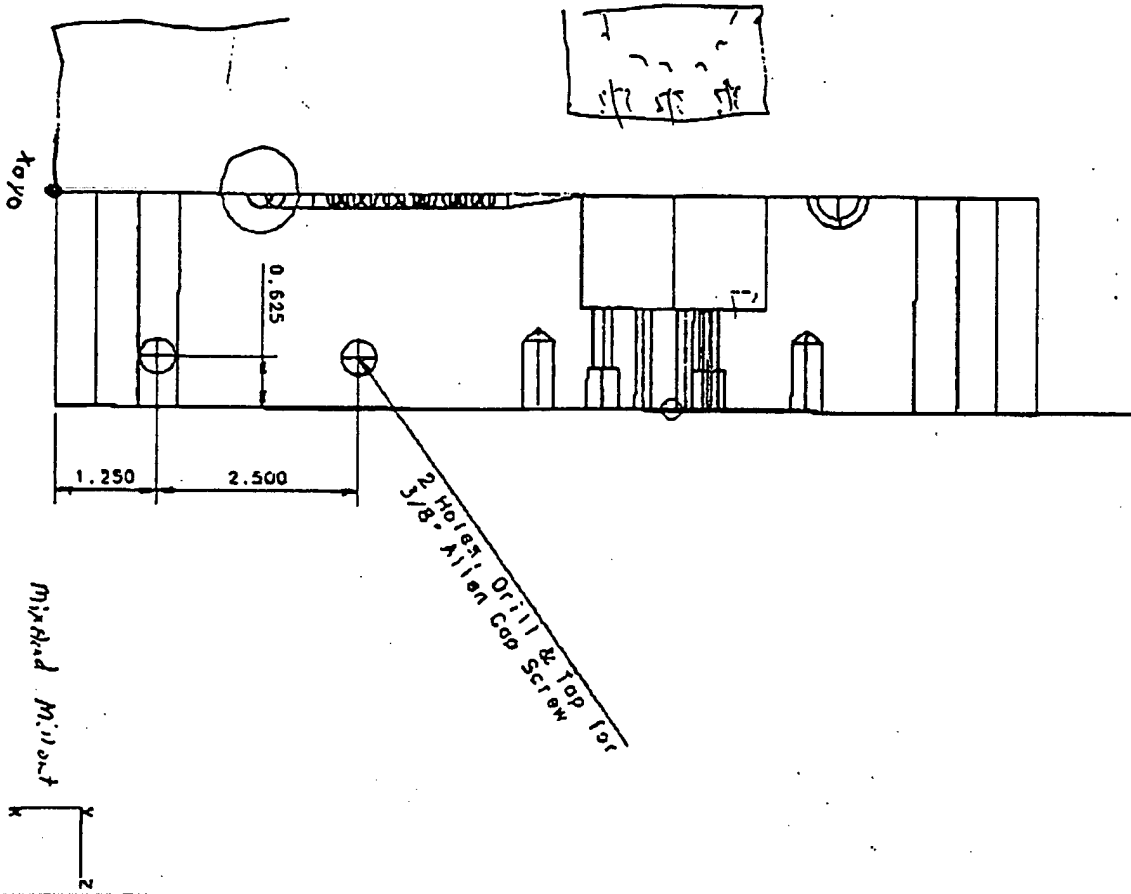
WILSON PROTOTYPE GOLF BALL TOOL  
MACHINED HOLES IN FIXED MOLD HALF

DAVID RUCCO  
OCTOBER 28, 1997

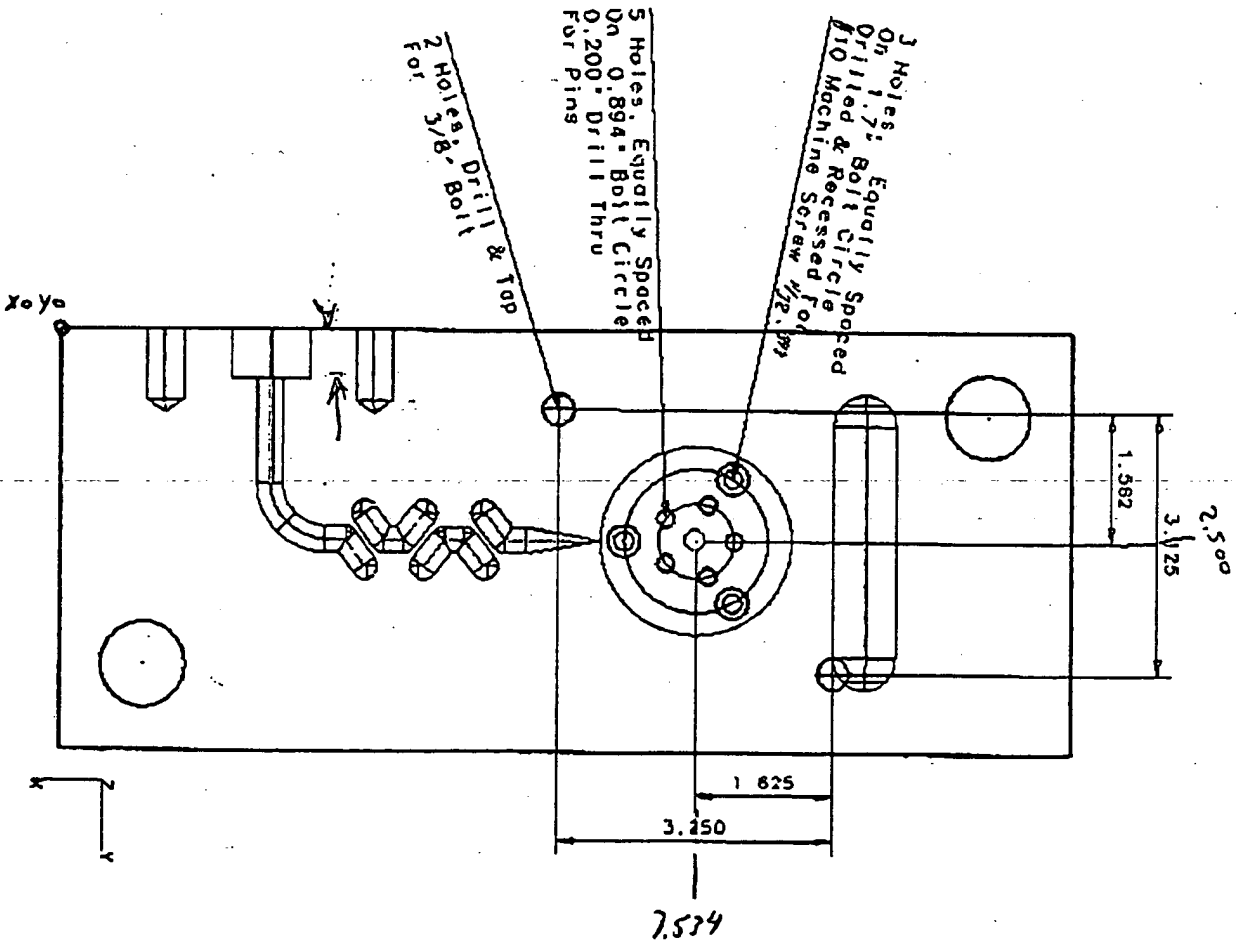


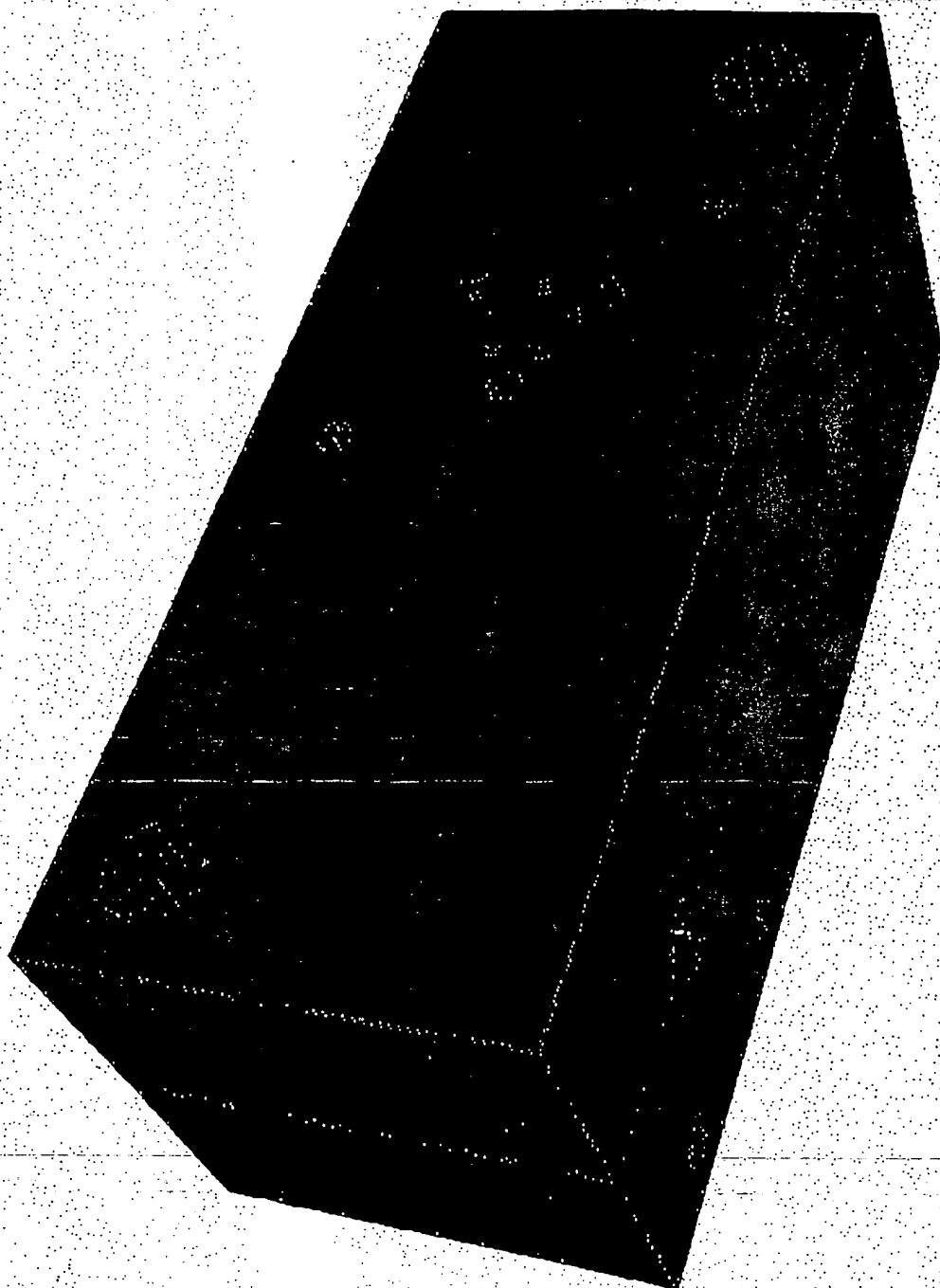
FIXED MOLD HALF  
BOLT HOLE LOCATIONS  
MIXHEAD ADAPTER PLATE

DAVID ROCCO  
OCTOBER 28, 1997



FIXED MOLD HALF  
MACHINED HOLES LOCATIONS  
PIN BLOCK & ADAPTER PLATE



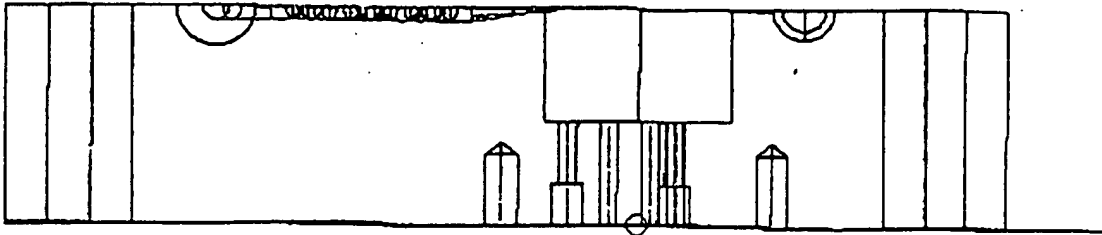


WILSON PROTOTYPE GOLF BALL TOOL  
MACHINED HOLES REMOVABLE MOLD HALF

DAVID ROCCO  
OCTOBER 28, 1997

REMOVABLE MOLD HALF  
BOLT HOLE LOCATIONS

DAVID ROCCO  
OCTOBER 28, 1997

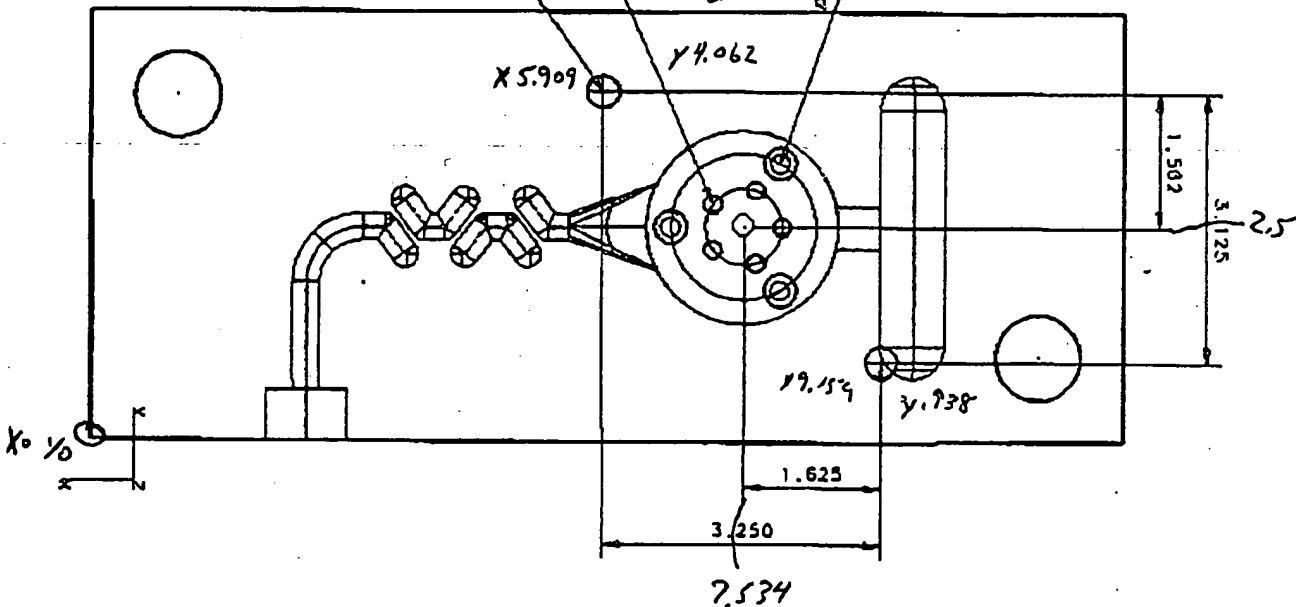


3 Holes: Equally Spaced  
On 1.7" Bolt Circle  
Drilled & Recessed for  
M10 Machine Screw

5 Holes: Equally Spaced  
On 0.88" Bolt Circle  
0.200" Drill Thru  
for Pins

2 Holes: Drill & Tap  
for 3/8" Bolt & Top

REMOVABLE MOLD HALF  
MACHINED HOLES LOCATIONS  
PIN BLOCK & ADAPTER PLATE



This technical drawing shows a cross-section of a mechanical assembly. The assembly consists of a central shaft with several components mounted on it. At the top, there are two circular components, possibly bearings or seals, labeled 'A' and 'B'. Below these, there are two vertical components, labeled 'C' and 'D', which appear to be part of a pump or motor mechanism. The central shaft is labeled 'E'. At the bottom, there are two circular components, labeled 'F' and 'G', which are likely part of a base or support structure. The drawing includes various lines and dimensions to specify the geometry and assembly of the components.

ALL WATER PORTS 3/8" DIAM.

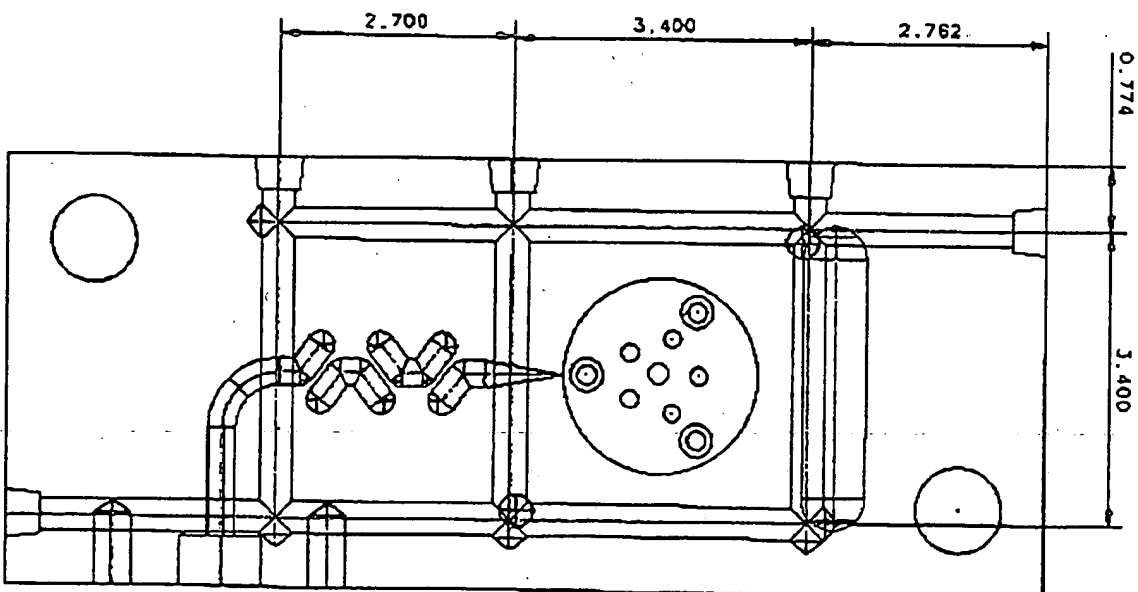
CENTERLINE OF PORTS IS  
3/4" OFF PARTING LINE SURFACE

ENDS OF PORTS GET 3/8" NPT TAP

PLUG THE 3 PORTS ON LONG SIDE

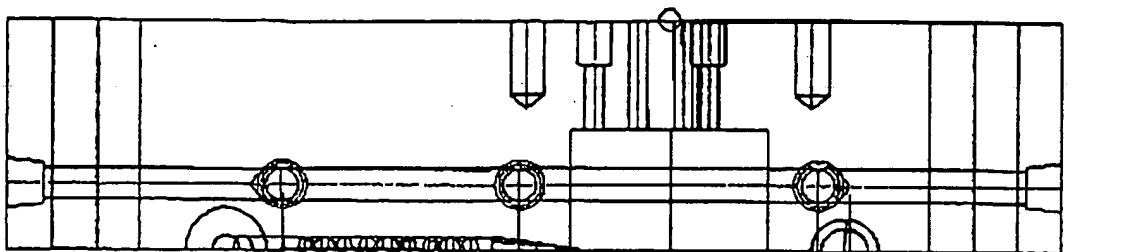


DAVID ROCCO  
OCTOBER 28, 1997





REMOVABLE MOLD HALF  
WATER PORT LOCATIONS



NOTES

ALL WATER PORTS 3/8" DIAM.

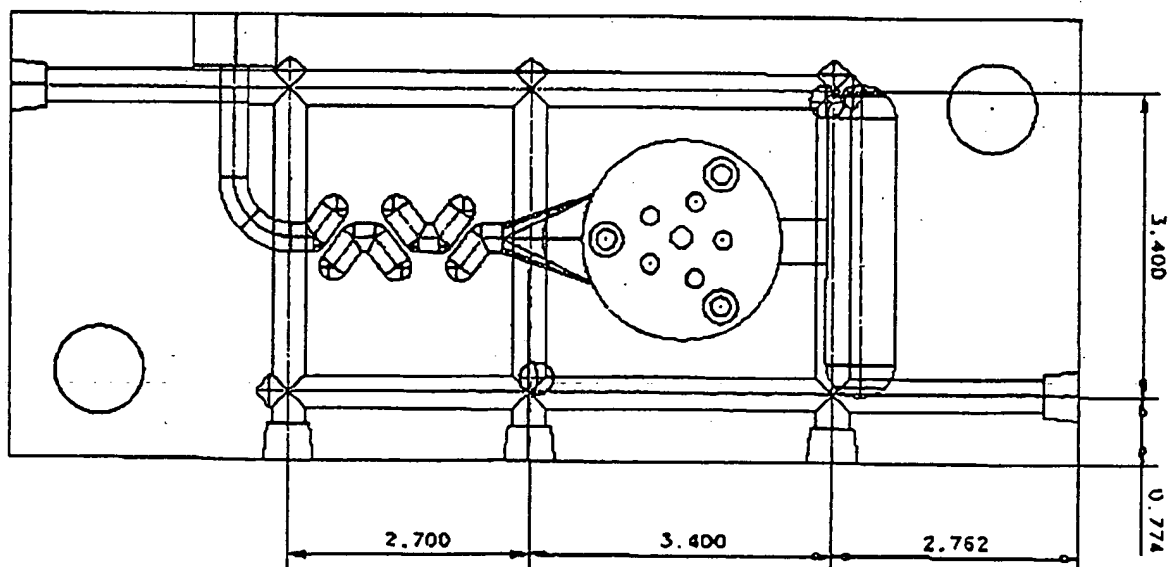
CENTERLINE OF PORTS IS  
3/4" OFF PARTING LINE SURFACE

ENDS OF PORTS GET 3/8" NPT TAP

PLUG THE 3 PORTS ON LONG SIDE

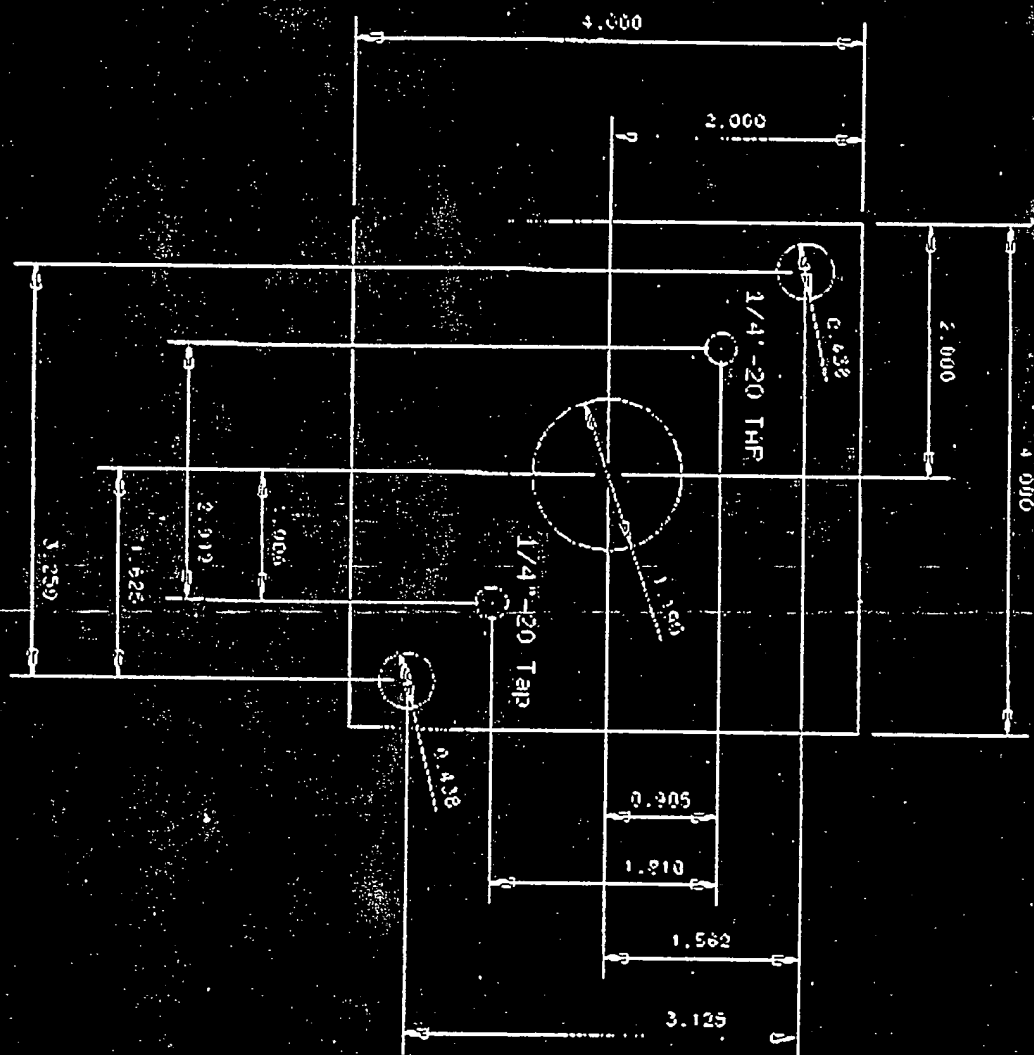


REMOVABLE MOLD HALF  
VIEW OF PARTING LINE SURFACE



DAVID ROCCO  
OCTOBER 28, 1997





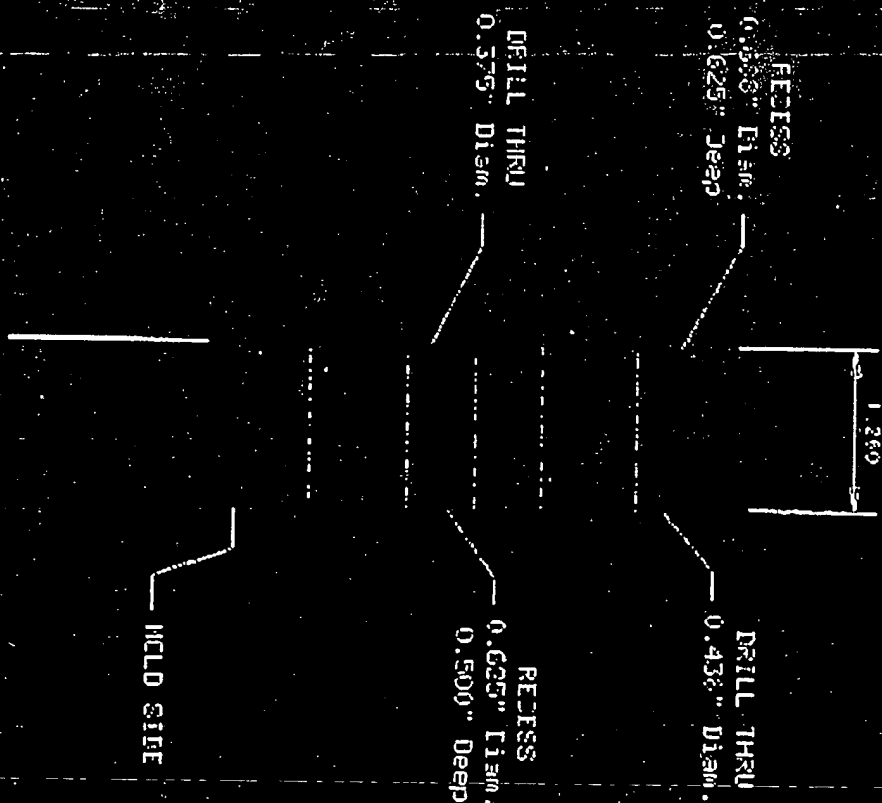
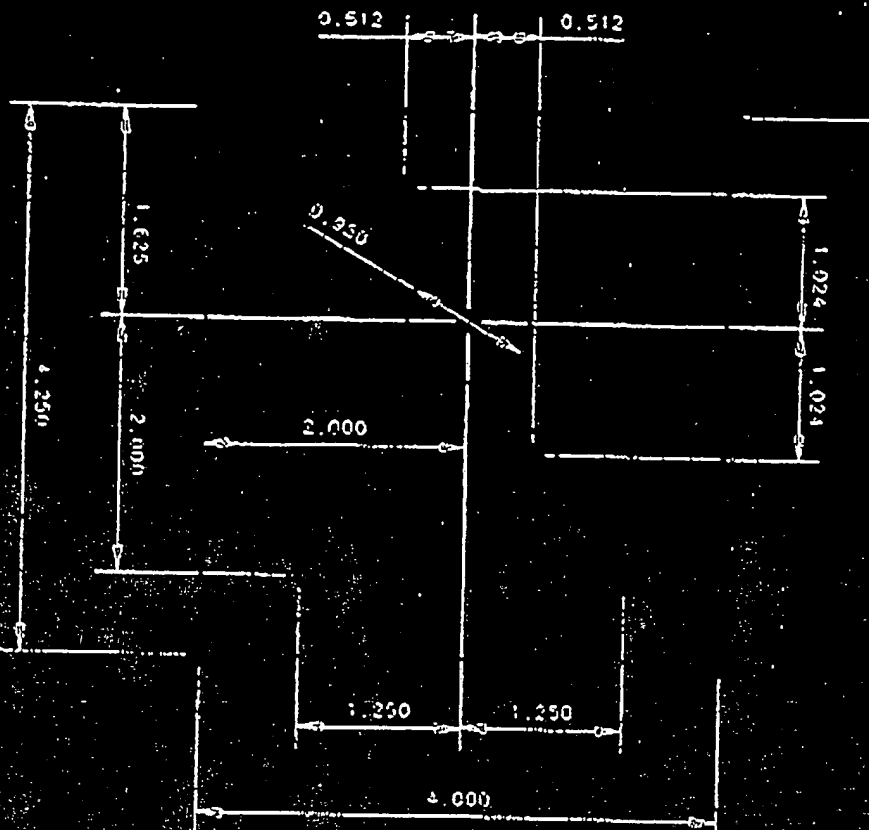
ADAPTIVE FLAME  
STEEL  
1/2" THICK

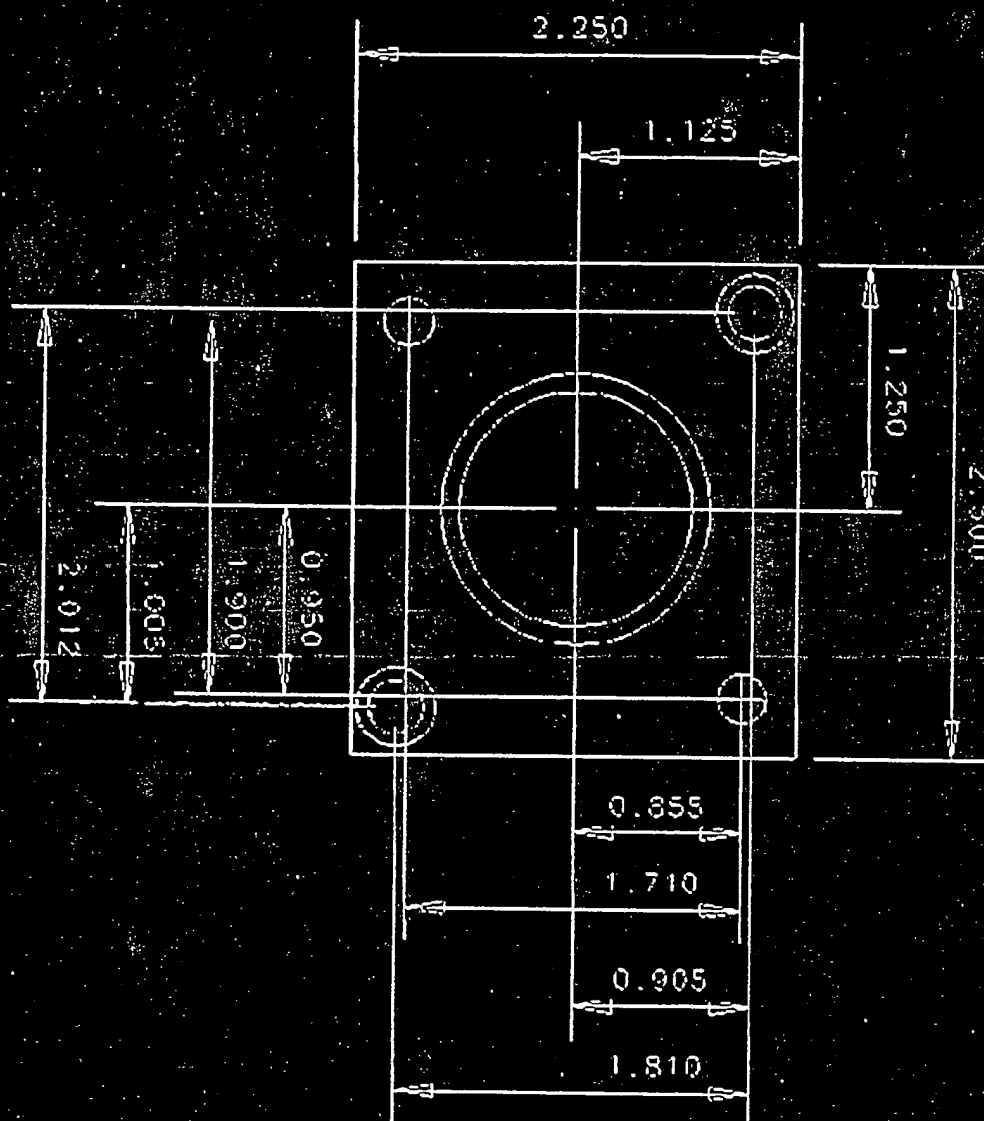
DAVID ROCCA  
OCTOBER 13, 1997



MICHELI MOPLES PLANT  
ALUMINUM

DAVID FOLLO  
OCTOBER 28, 1992





P11-BLUEK  
BUILT LOCATION: DEPALE

DAVID POCED  
OCTOBER 13, 1997

DATE 11/17/97

SUBJECT Weather ball Project

PAGE 1 OF 1

33

1/17/97

Purpose: Harry George/David Rocca in from Bayes on Nov 13<sup>th</sup>  
to discuss mold design, and planned ball development  
week -

Numerous samples to be evaluated, based on different  
Weather heads, core size (for balls), wound core evaluation  
and evaluation of Weather as market.

- Current ball - core - 1.505" dia, 34.5g  
core - 1.683" dia - 1.50" dia, 11.0g

$$V_{\text{core}} - 29.21 \text{ cm}^3 \quad \left( \begin{array}{l} 1.181 \text{ core S.G.} \\ 1.145 \text{ wound S.G.} \end{array} \right)$$

$$V_{\text{core}} - (40.88 - 29.21) = 11.68 \text{ cm}^3 \quad \text{core S.G.} \quad 0.94$$

Polyweather grades to be evaluated have S.G. of  
1.04, and core sizes of 1.50", 1.54" and 1.58"  
diameter to be evaluated.

- Core S.G. - requirement, (based on 1.683" dia ball size,  
1.04 S.G. core) as follows:

					core S.G.	Wound S.G.	
* 1.50" core	- 28.95 cm <sup>3</sup>	33.09g required	1.143	1.107			45.24
Core -	11.93 cm <sup>3</sup>	= 12.41g					
* Core Size 1.54"	- 31.34 cm <sup>3</sup>	35.58g	1.135	1.099			45.5
Core -	9.54 cm <sup>3</sup>	= 9.92g					
* Core Size - 1.58"	- 33.84 cm <sup>3</sup>	38.21g	1.129	1.093			45.7
Core -	7.01 cm <sup>3</sup>	= 7.29g					

If we use single core component @ 1.136 wound S.G.,  
we should be able to run ~~rough~~ all sizes (1.50 - 1.58"  
core size) of cores for DOE.

INITIALS AND UNDERSTOOD

UNCO  
GNED

Michael Rees

DATE  
DATE

2/25/98

DATE  
DATE

11/17/97

Blumberg No. 5110

EXHIBIT

II

DATE 11/17/97 SUBJECT Urethane Ball Project

PROJECT NO.

cat #  
11/87

34

11/17/97 Required Core blend  $\approx$  1.136 cured S.G. (1.10 uncured S.G.) - target P&A compression  $\approx$  85-90

	P&A
BR 1207	100
SR 416 D	33
Zinc Oxide	5
Barytes	9.2
BF (DCP)-70	1.54

$\approx$  1.100 S.G. (uncured)

Evaluations to be performed:

- DOE (9 samples - 3 core sizes, 3 urethane core materials)
    - Core Size - 1.50, 1.54, 1.58" dia
    - Core Hardness, Grade - 110-25 IMPR 50 D 25K flex modulus
    - 110-50 58 D 52K flex modulus
    - XGT-100 69 D 100K flex modulus
    - Cores to be molded by R+D (16 cores each of experimental - 9 total)
    - Setup cores to each size to be provided by manufacturing.
  - Wound balls - Cores to be wound w/ RIM urethane to be molded around wound cores.
    - Liquid urethanes (possible) - 1.57-1.58" core diameter
    - Urethanes - 110-25 IMPR 50 D
    - 110-50 58 D
  - Mantles - 1.60" diameter
    - Mold mantles around of each urethane above around Balata cores (1.52" diameter)
  - Solid balls - 16 balls w/ each urethane listed above.
- All balls to be molded at Bayec - when RIM mold has been completed.

WITNESSED AND UNDERSTOOD

IFU

IED

Michael Reed

DATE

DATE

2/25/98

SIGNATURE

DATE

11/19/97

## InterOffice Memo

November 19, 1997

TO: Distribution  
FROM: Frank Simonutti  
SUBJECT: Bayer RIM Urethane Trials

---

Meeting with Bayer to discuss trials was held on November 13th. As requested, I have prepared a list of desired trials (preliminary) to be run at Bayer when mold has been completed. A list of desired trials, and our requirements from manufacturing/engineering is as follows:

**Solid Core Balls:**

- A basic DOE has been prepared, to evaluate 3 core sizes (1.50", 1.54", 1.58" core diameter) and 3 different Urethane cover hardness levels (50 shore 'D' - Bayer Bayflex 110-25 IMR, 58 shore 'D' - Bayer Bayflex 110-50, 69 shore 'D' - Bayer Bayflex XGT-100).

- 16 balls of each iteration to be molded (144 total cores, 48 at each size). Core compression of 85-90 to be used for preliminary evaluation.

R&D to formulate and mold required cores.

Needs from Manufacturing/Engineering - Setup cores (standard core compound) for each size to be evaluated. Cores will need to be glebarred to each core diameter to be evaluated in this experimental.

**Wound Core Ball:**

- Bayflex 110-25IMR (50 shore 'D') and 110-50 (58 shore 'D') RIM grades to be evaluated on wound cores. 12-16 balls from each cover material are desired.

- Wound cores to be made using liquid filled centers, wound using either Fulflex or JP Stevens thread.

Needs from Manufacturing/Engineering - Set up single winding machine, wind frozen cores. (J. Matheny to set up winding machine).

**Mantle Evaluation:**

- Each of 3 RIM urethanes to be evaluated as mantles. Urethanes to be molded onto current Staff Balata cores (1.52" diameter). 1.60" cavity required for molding of these mantles.

MATERIAL LIST  
RIM MOLD

- CO PPR*  
1. 2 PLATES 12 1/16" X 5 1/16" X 2 3/4" THK. ALUMINUM. *90<sup>53</sup> EX 11/19*
- 5/8" THK.*  
2. 2 PLATES 4" X 4" X 1/2" THK. STEEL. *22<sup>00</sup> EX.*
- CO PPR*  
3. 1 PLATE 4 1/4" X 4" X 1 1/4" THK. ALUMINUM. *42<sup>42</sup> EX*
- 5/8"*  
4. 2 PLATES 2 1/2" X 2 1/4" X 1 3/4" THK. STEEL. *22<sup>00</sup> EX.*

UDDEHOLM  
7900 HUB PARKWAY  
VALLEY VIEW, OHIO

44125





Sporting Goods Co.

## REQUEST FOR AUTHORIZATION

Project No.

5513

Date: 12/8/97	Location: Humboldt	Depr. Exp. Org. Code 510	Exchange Rate:	
Project: Laboratory RIM Molding Unit			Project Manager: Frank Simonutti	
Type Justification:	Priority Type:			
EXPENDITURE CLASSIFICATION				
Included In Plan	1997 Plan Amount	Substituted Capital Amount	Total Project Amount	Class Of Assets
Yes No	Capital Expense			Amount Requested
				Capital Expense
	\$95,000	\$5,860	\$100,860	
DESCRIPTION OF SUBSTITUTES			Plan Item No.	Capital Amount
1				
2				
3				
Date Approval Needed:			Quote Good Until:	Est. Completion Date:
Objective: See Attached.				
Summary Description and Scope: See Attached.				
			0. Land, _____ Acres 1. Land Improvements 2. Building, _____ MSF 3. Building Improvements 4. Leasehold Improvements 5. Machinery & Equipment 6. Automobiles & Trucks 7. Office Equipment 10. Material Handling Equipment 12. Molds and Tooling 13. Computer & Computer Equipment TOTAL INVESTMENT By Years 1997 19 19 Cap/Exp Cap/Exp Cap/Exp 100%	
Spending By Period				
Year	19	19	19	19
Revenue or Cost Reduction				
Expense				
Pretax Contribution				
Cost Savings				
Return on Assets Employed				
OTHER INFORMATION				
Payback Period: Years -	DCF Rate of Return		FOR APPROVAL AUTHORITY	
Net Present Value @ 15% -	Internal Rate of Return for Increase in Investment		USE ONLY	
			CONCURRENCE	
			DATE	
			12/9/97	
			12/9/97	
			12/15/97	
			12/15/97	
			12/15/97	
*Disposal of Existing Asset(s) Involved: Yes / No N				
Asset Identification Number:				
Book Value: Est. Recovery: Gain/Loss:				
STAFF REVIEW				
Tax Dept.	Date		Date	
Corporate Accounting				
				Approval

07/17/85

16:53

01 312 714 4570

WILSON/GOLF ADMIN --- HUBBOLDT

0005

## EXHIBIT B

**CAPITAL PROJECTS TO BE REQUESTED**  
Complete this form for all projects over \$25,000

Objective: Laboratory RIM (Reaction Injection Molding)  
Molding Unit.

Alternatives to achieve objective:  
None.

## Summary Description:

a) Initial cost	\$ 100,860
b) Annual revenue/savings	
c) Annual expenses (ex depreciation)	
(b-c) Annual net revenue	
Economic life	10 yrs.

Assumptions: This is new technology that has not been applied to Golf balls. It will give us new construction and material options which could offer superior feel and control.

Payback Period/Internal Rate of Return:

**InterOffice Memo**

December 9, 1997

TO: Frank Garrett  
FROM: Frank Simonutti  
SUBJECT: RIM RFA Justification  
C.C.: R. Peterson

Objective and Summary Description/Scope for Laboratory RIM Molding RFA Unit are as follows:

**OBJECTIVE:**

Laboratory RIM molding unit will allow us to evaluate RIM Urethane materials in golf ball applications.

**CURRENT PROCESS/BACKGROUND:**

Currently, in the golf industry, there are two companies making golf balls using Polyurethane materials. Titleist (Titleist Professional) uses a cast polyurethane system, which is a labor intensive/time intensive process. Maxfli is introducing (in 1998) 2 balls made with Thermoplastic Polyurethane covers, which is easier to process than Titleist's cast process, but limits performance properties (Thermoplastic urethanes are less resilient than Thermoset urethanes) and construction options (Thermoplastic urethanes have relatively high melt temperature, making evaluation on wound construction difficult).

We can currently process Thermoplastic Polyurethanes, and have evaluated various materials, but with no success (materials unsuitable for our requirements). We do not have the ability to process RIM (Reaction Injection Molded) materials.

**USES/JUSTIFICATION FOR RIM MOLDING UNIT:****1. Development of New Products**

RIM molding unit will allow us to evaluate materials we cannot currently process. RIM materials (due to nature of processing) can be evaluated as cores, covers, mantles and solid balls, and due to low processing temperatures, can be evaluated on wound construction without damaging threads. RIM material systems are such that component blends can be varied, to customize compounds to desired modulus, hardness, etc. properties.

**2. Development of New Production Process**

RIM molding of golf balls is a process not currently used in the Golf industry. If new product development is successful, use of RIM process will allow a competitive advantage in processing cycles, costs. For example, the current Titleist Professional golf ball is made using a cast urethane, which requires a long processing time. RIM

cycles are extremely short, and process would be significantly more economical (which would give Wilson a competitive advantage).

### 3. Competitive Advantage

If we are able to develop a ball made using RIM materials, we should be able to achieve a competitive advantage regarding processing costs, and through patenting both materials and process, maintain an exclusive advantage.

### OTHER POSSIBILITIES:

There are other RIM systems (Hi-Tech Engineering has been contacted), but based upon Bayer's position in the industry (regarding RIM Urethane materials), and the technical support (trials on different Urethanes/ball constructions scheduled to be evaluated just after the new year, at Bayer laboratory in Pittsburgh), this is the RIM molding unit that best serves our requirements.

783.85

iv



Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

January 6, 1998

Mr. Frank Simonutti  
Wilson Sporting Goods Company  
2330 Ultra Drive  
Humboldt, Tennessee 38343

Dear Frank,

Reference: P.O. # 78385  
Proposal No. 97S-0226

On behalf of Hennecke Machinery, I would like to thank you for your machinery order, and we are certainly looking forward to working with Wilson on your research project.

I want to update you on our schedule for construction and delivery of this machine. First, Earl Casebeer has been assigned as the Project Engineer for your project and he is planning a kick off meeting within the week. Our ship date is scheduled for March 30, and the start-up will be planned soon after you complete installation in the lab. I hope that this still meets with your approval.

We will be giving you periodic updates on our progress during construction. Hennecke will build the machine in our shop, here in Pittsburgh, and prior to shipment, you and others on your staff will be invited to come in to witness the operation of this equipment and to obtain training on the operation of the machine, pumps, mixhead, etc. In the interim, if you have any questions please feel free to call on me. When calling, please make reference to either Project No. M-1082 or Proposal No. 97S-0226.

I want to thank you again for this order, and we are looking forward to working with you.

Best regards,

Jack Ferrand  
Technical Sales Specialist  
Specialty Business Team  
Hennecke Machinery  
(412) 777-3666

cc: A. Mehta, E. Casebeer, T. Roseberry, B. Worms

Hennecke   
Polyurethane Technology

Blumberg No. 5118

EXHIBIT

N

Wilson Sporting Goods  
2230 Ultra Drive  
Humboldt, TN 38343

## SHIPPING FORM

NR 11375

DAYE CORP.  
Company

2/8/98  
Date

BUILDING 1  
Address

45312-ENG-X99  
Shipping Account Number

100 DAYE ROAD  
Address

Customer Account Number

PITTSBURGH, PA 15205-9741  
City, State, Zip Code

RGA# P.O.#

HARRY GEORGE  
Contact

JERRY MATHENY  
Sender

Quantity	Description	Unit Price
1 BOX	R.I.M. UNIT	N/C
	WITH STAND	

Check one of the following:

☐ FedEx Economy (2 days)  
☐ FedEx Standard (next day by 3:00PM)  
☐ FedEx Priority (next day by 10:00AM)  
☐ RPS  
☐ UPS

☐ Airborne Two Day  
☐ Airborne Next Day  
☒ Truck  
☐ Other  
☐ Most Economical

----- Please Do Not Write Below This Line -----

B/L or COD#: \_\_\_\_\_ Transportation Charge: \_\_\_\_\_

Weight: \_\_\_\_\_ Cartons: \_\_\_\_\_ Other: \_\_\_\_\_

Carrier: \_\_\_\_\_ Date Shipped: \_\_\_\_\_

Wilson Sporting Goods  
2230 Ultra Drive  
Humboldt, TN 38343

## SHIPPING FORM

N2 11376

BAYER  
Company

3-3-98  
Date

100 BAYER ROAD  
Address

45312-ENG-X99  
Shipping Account Number

BUILDING 1  
Address

Customer Account Number

PITTSBURGH, PA 15205-9741  
City, State, Zip Code

RG# P.O.#

TOM CLARKE  
Contact

JERRY MATHENY  
Sender

Quantity	Description	Unit Price
2 BOXES	SET-UP CDRES AND	N/C
	TIMER FOR R.I.M.	

Check one of the following:

☐ FedEx Economy (2 days)  
☐ FedEx Standard (next day by 3:00PM)  
☐ FedEx Priority (next day by 10:00AM)  
☐ RPS  
☐ UPS

☒ Airborne Two Day  
☐ Airborne Next Day  
☐ Truck  
☐ Other \_\_\_\_\_  
☐ Most Economical

----- Please Do Not Write Below This Line -----

B/L or COD#: \_\_\_\_\_ Transportation Charge: \_\_\_\_\_

Weight: \_\_\_\_\_ Cartons: \_\_\_\_\_ Other: \_\_\_\_\_

Carrier: \_\_\_\_\_ Date Shipped: \_\_\_\_\_



# WILSON SPORTING GOODS CO.

## PATENT DISCLOSURE

030H

Title of Invention: Golf Ball Molded Using RIM Process

Inventor(s): Frank M. Simonutti, Jerry L. Matheny, Richard D. Matheny, Ralph E. Peterson

Location: Humboldt

Date of Conception: November 17, 1997

Location of Original Records: Jerry Matheny files, Frank Simonutti laboratory book FS-6

Date of 1st Reduction (Models, Prototypes): March 17, 1998

Date of Intended Production: To be determined

### DESCRIPTION OF INVENTION

1. Background and Problem: See Attached  
\_\_\_\_\_  
\_\_\_\_\_
2. Your Solution: See Attached  
\_\_\_\_\_  
\_\_\_\_\_
3. References: See Attached  
\_\_\_\_\_  
\_\_\_\_\_
4. Experimental Results: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature Of Inventor(s):

Frank M. Simonutti  
Ralph E. Peterson  
Richard D. Matheny  
Jerry L. Matheny  
Dwayne M. Olson  
Richard D. Reed

Date: 4/2/98

Date: 4/2/98

Date: 4/2/98

Date: 4/2/98

Date: 4/2/98

Date: 4/2/98

Witness(es):



# DESCRIPTION OF INVENTION

## 1. Background and Problem

Polyurethane materials have been used in golf ball construction (primarily as golf ball covers) for many years, with varying levels of success.

Thermoplastic polyurethanes have been used, alone and in blends with other materials, as golf ball covers. However, the balls made using thermoplastic polyurethanes (solid core construction) have generally had poor resilience properties. Thermoplastic polyurethanes are generally unsuitable for use as covers on wound golf balls as processing temperatures required (350+ °F) to obtain suitable flow of the polyurethane materials into polyisoprene thread would degrade the thread used in wound golf cores. The thread will degrade, and lose the resilience properties necessary to obtain premium performance.

More recently, work has been performed in using slow curing, thermoset polyurethane compounds as golf ball covers (see U.S. Patents 4,123,061 and 5,334,673 for description of using a liquid cast system - slow curing polyurethane). Although these polyurethane compounds produce better golf ball properties than thermoplastic polyurethane materials, methods for processing these materials (as described in U.S. Patent 3,989,568, U.S. Patent 4,123,061 and European Patent Application 0 578 466 A1) are difficult, time consuming and cost-inefficient.

The invention describes an improved method for processing fast cure thermoset polyurethane compounds, by "Reaction Injection Molding" or "Liquid Injection Molding" low viscosity polyurethane component (or other polymer) systems, leading to short cycle, low cost processing conditions. As the liquid components are injected at low temperatures and pressures (as compared to a thermoplastic polyurethane), molding around a wound core will not cause thread degradation, as would be expected with thermoplastic polyurethane materials. RIM or LIM molding of polyurethane materials is suitable for the following golf ball applications:

- Solid Core/Ball molding
- Inner Cover Layer molding (mantle layer) of solid core ball.
- Outer cover layer molding of solid core ball (1- or 2- layer covered ball).
- Molding of cover layer for wound golf ball.

## 2. Solution

"Reaction Injection Molding" or "Liquid Injection Molding" of 2- or more component polyurethane systems (low viscosity components), using a "High-Pressure Polyurethane Metering/Injection Machine". [See attached - schematic representation of High-Pressure machine]

Polyurethane compound suitable for molding in this method include (but are not limited to) the following:

US Patent 3,979,126 - Ball and Process and Composition of Matter for Production Thereof -  
Acushnet Company  
US Patent 3,989,568 - Polyurethane Covered Golf Balls - Acushnet Company  
US Patent 4,068,849 - Solid Golf Ball - Acushnet Company  
US Patent 4,123,061 - Ball and Process and Composition of Matter for Production Thereof -  
Acushnet Company  
US Patent 4,248,432 - Golf Ball - The B.F. Goodrich Company  
US Patent 4,295,652 - Golf Ball - Bridgestone Tire Co, Ltd, Toray Industries, Inc.  
US Patent 4,442,282 - Polyurethane Covered Golf Balls - The B.F. Goodrich Company  
US Patent 4,674,751 - Golf Ball Having Improved Playability Properties -  
Spalding and Evenflo Companies, Inc.  
US Patent 5,006,297 - Method of Molding Polyurethane Golf Balls - Acushnet Company  
US Patent 5,334,673 - Polyurethane Golf Ball - Acushnet Company  
US Patent 5,688,191 - Multilayer Golf Ball - Acushnet Company  
European Patent Application 0 578 466 A1 - Method and Apparatus for forming Polyurethane  
Cover on Golf Ball Core - Acushnet Company

None of the cited patents discusses molding of golf balls, either core, cover, inner layer or solid ball, using a RIM/LIM molding process. No prior art relevant to our disclosure was found.

#### **4. Experimental Results:**

To be attached.

#### **5. Discussion of Blend Results**

To be attached.

- An aromatic diisocyanate (or diisocyanate prepolymer), having a viscosity of less than 1,000 cps. Examples of suitable diisocyanates are as follows:
  - TDI (Meta-toluene diisocyanate)
  - MDI (4,4'-Diphenylmethane diisocyanate)
  - PMDI (Polymeric diisocyanate)
  - TODI (3,3'-dimethyl-4,4'-biphenyl diisocyanate)
  - NDI (Naphthalene diisocyanate)
  - PPDI (Para-phenylene diisocyanate)
- A polyol or an amine type curing agent, also having a viscosity of less than 1,000 cps. Examples of suitable polyol curing agents are as follows:
  - Polypropylene Oxide- based polyether polyols
  - Polytetramethylene ether glycol
  - Polyester polyols (as follows):
    - Adipates, isophthalates, phthalates, terephthalates
    - Polycaprolactones
    - Polycarbonates
- Other additives as follows:
  - Chain extenders (polyol or polyamine)
  - Stabilizers
  - Colorants

Molding process for RIM/LIM molding of golf balls is as follows:

A brief description of the attached drawings.

These and other aspects of the present invention may be further understood with reference to the accompanying drawings in which:

FIG. 1 illustrates a side view of a R.I.M./L.I.M. mold complete with pins that extend to hold the center in place, and retract to form a dimple in a golf ball.

FIG. 2 illustrates a top view of a one- (1) cavity R.I.M./L.I.M. mold complete with post mixing section. Although a mold may have multiple cavities, only one is shown for simplification.

FIG. 3A illustrates a top view of a one cavity R.I.M./L.I.M. mold. Although a mold may have multiple cavities, only one is shown for simplification.

FIG. 3B illustrates a side view of a one cavity R.I.M./L.I.M. mold.

FIG. 3C illustrates a top view of an insert for FIG. 3A.

FIG. 3D illustrates a side view of FIG. 3C.

FIG. 3E illustrates a side view of an insert used to hold the part in place for the second half of the R.I.M./L.I.M. process.

FIG. 3F illustrates the end view of FIG. 3E

FIG. 3G illustrates the side view of an insert used to hold the part in place for the first half of the R.I.M./L.I.M. process.

FIG. 3H illustrates the end view of FIG. 3G.

FIG. 4 illustrates a schematic drawing of the machinery (press) used in the R.I.M./L.I.M. process.

# Assembly Drawing of RIM MOLD

Scale: Full

FIG 1

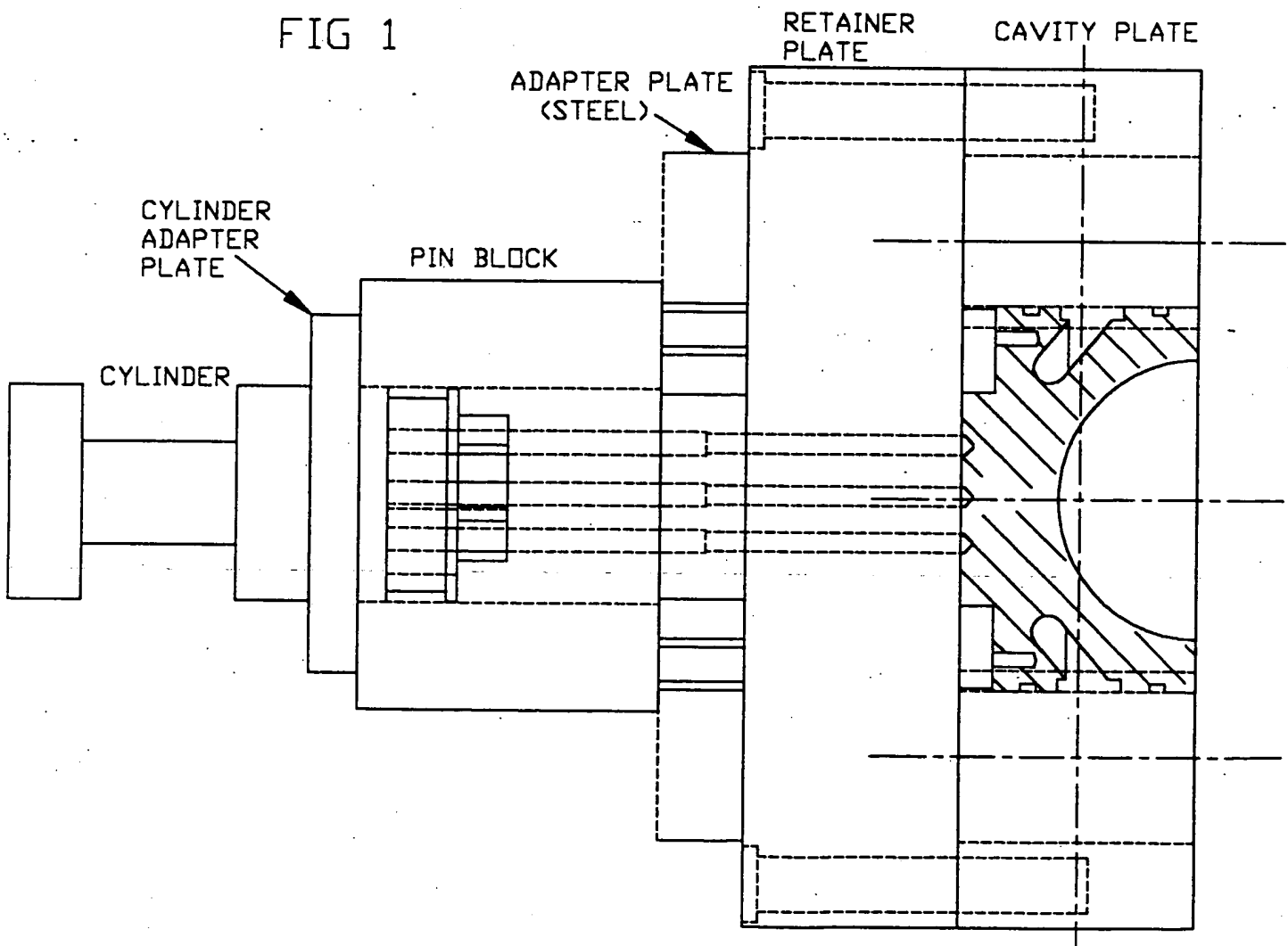
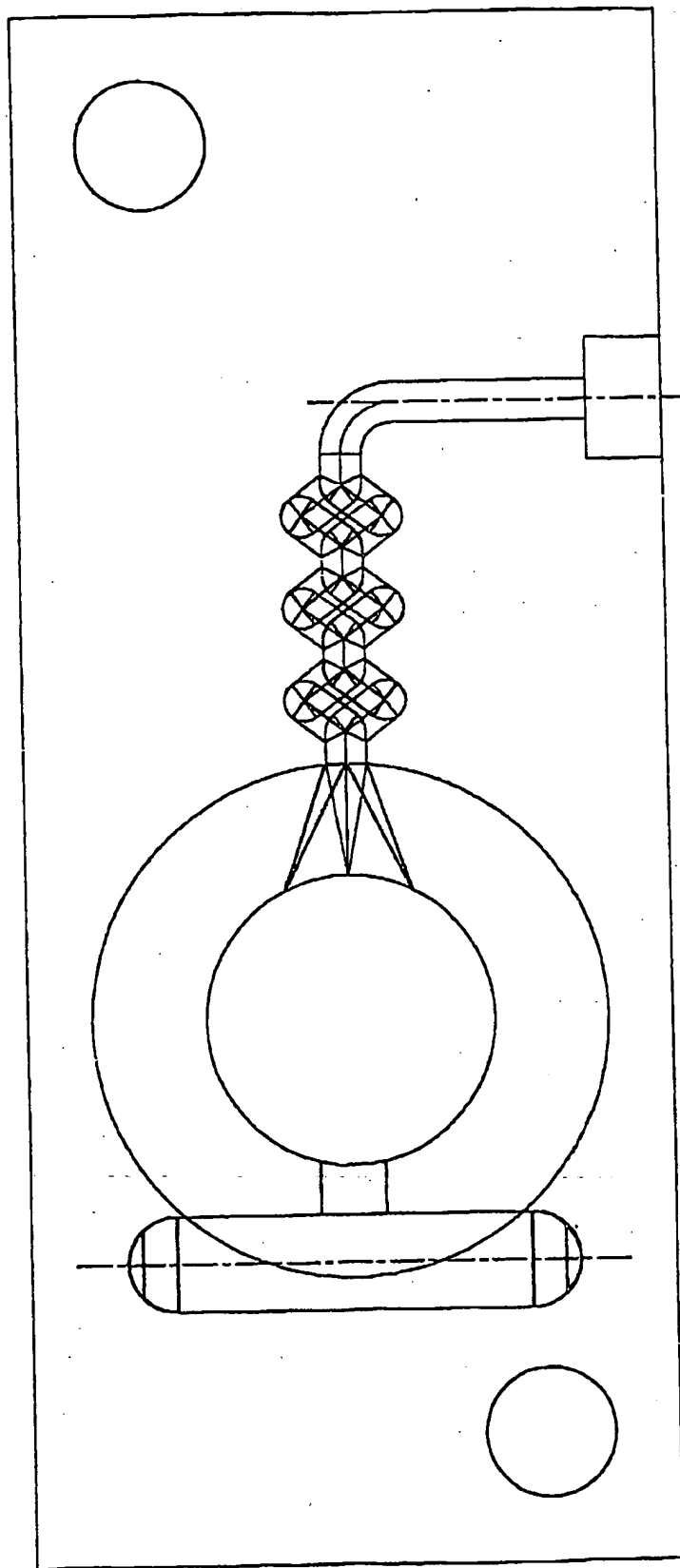


FIG. 2

SCALE: .75" = 1"



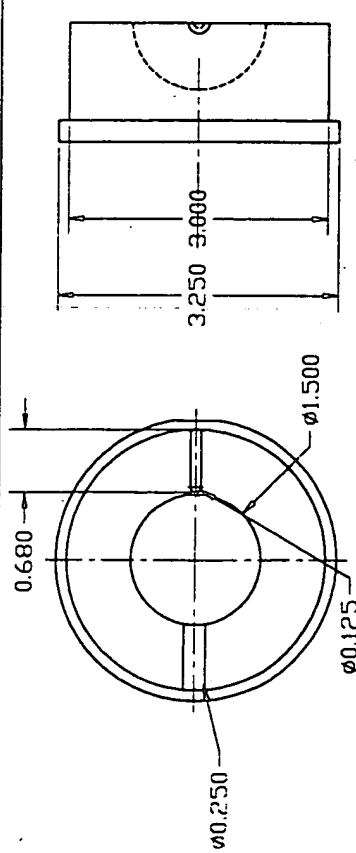


FIG 3D

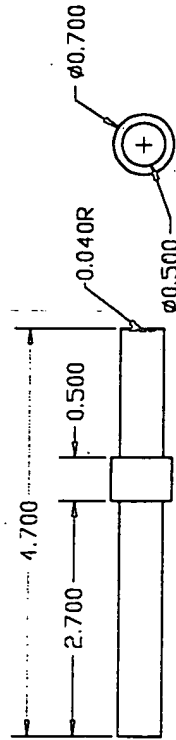
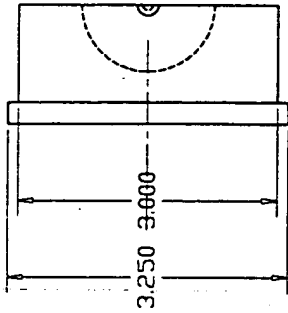


FIG 3F

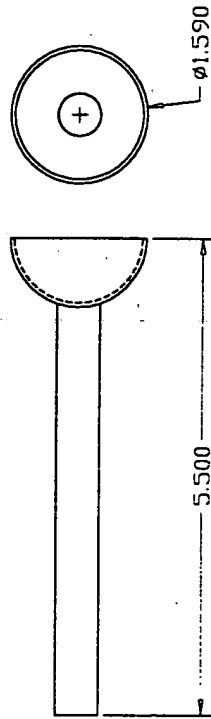


FIG 3G

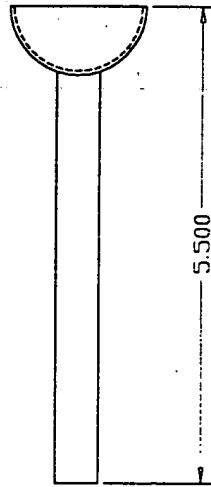


FIG 3A

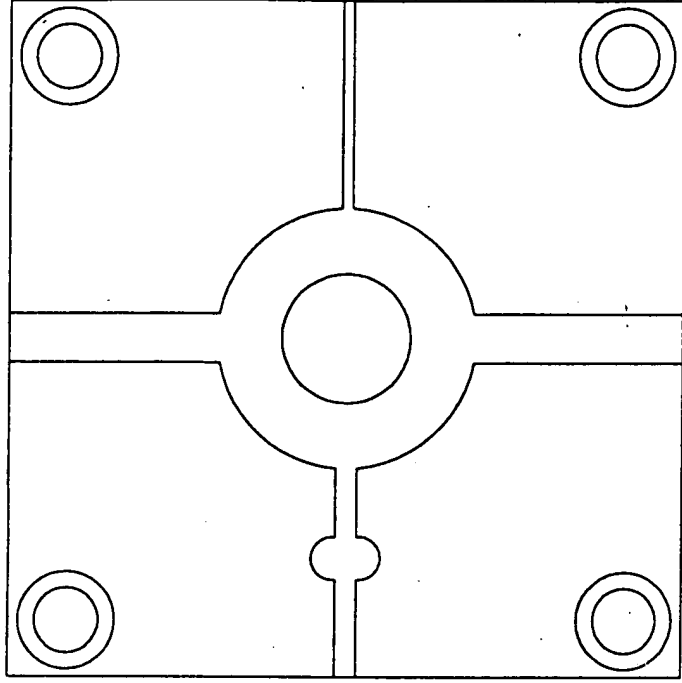
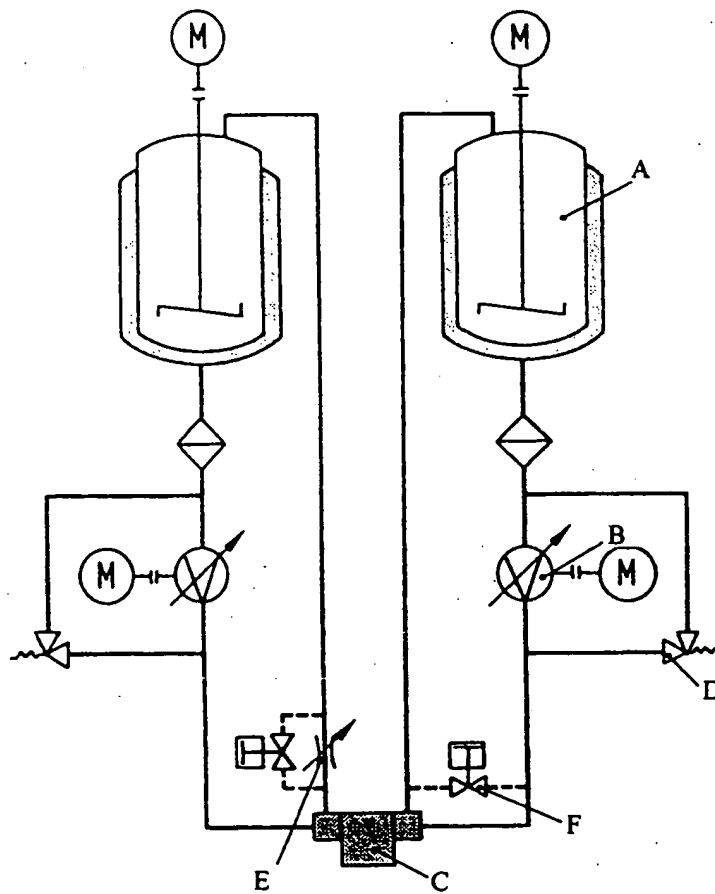


FIG 3B



Wilson Sporting Goods Co.			
SCALE: N/A	APPROVED BY:	DATE: MAR. '98	REVISION:
LIM / RIM		FILE NO:	DRAWING NUMBER:
FIG 3			

FIG 4:  
 HIGH PRESSURE RECIRCULATION MACHINE FLOW CHART;  
 A = MACHINE TANK; B = METERING UNITS; C = MIXHEAD; D = RELIEF VALVES;  
 E = PRESSURE CONTROL VALVES; F = BYPASS FOR LOW PRESSURE RECIRCULATION







April 20, 1998

Polymers Division

Mr. Frank Simonutti  
Wilson Sporting Goods  
2330 Ultra Dr.  
Humbolt, TN 38343

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

Dear Frank,

As you know, the Bayer-Hennecke HK-55 Metering unit you purchased will ship from our facility on Friday, April 24, 1998. Arrival at your plant in Humbolt, TN., will be Monday, April 27, 1998. A standard 5000 lb forklift will be needed for unloading and setting of the equipment.

Included in your purchase is (5) five days of installation and start-up assistance. Our technician will be assigned to the project upon confirmation of start date.

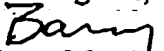
In order to ensure a smooth and successful start-up, I would like to review some items of importance which will need attention before the equipment is installed:

- The equipment area must be well ventilated.
- It is the responsibility of Wilson Sporting Goods to supply the required utility hook-ups. This includes 480VAC/60A/3PH Electric Power, 90 psi Plant Air, 30 psi Dry Air, and Process Water Supply.
- Wilson is responsible for the provisions and disposal of raw materials required for testing and flushing. Plan on 10 gallons each of mesamol, isocyanate and polyol.
- The mixhead hydraulic unit will require approximately 55 gallons of approved hydraulic oil. We recommend Mobile DTE 25, but I have attached a cross reference chart if you prefer another supplier.

Also attached, for your records, is Hennecke's standard rates for technical service. Should you desire additional technical service assistance, please call our Customer Service Department and we will make any arrangements you require.

Frank, I hope this information is helpful to you, and I will be available to discuss any questions or comments you have.

Best regards,

  
Barry Metzler  
Project Manager  
Specialty business team

Cc: J. Ferrand  
E. Kaczkowski  
B. Clarkin  
Harry George-Parkway

**Hennecke**  
Polyurethane Technology



EXHIBIT

R

Blumberg No. 5110



Polymers Division

Hennecke Machinery

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000  
Fax: 412 746-1334

**SERVICE ASSISTANCE RATE SCHEDULE**

Customer Service toll-free number 1-800-662-2927 or 412-777-3659.

**SERVICE ASSISTANCE**

Hennecke Machinery service personnel are Factory-Trained Specialists. They have the know-how and the tools and the equipment needed to work on our machinery. To quickly obtain this service, call or write the above address. Charges for domestic services beyond our normal warranty are made in accordance with the schedule given below.

**SCHEDULE OF FIELD SERVICES CHARGES****1. LABOR CHARGES****TECHNICAL SERVICES,  
ENGINEERING AND  
PROGRAMMING  
SERVICES**

- |     |   |              |
|-----|---|--------------|
| (a) | WEEKDAYS.....   | \$ 90.00/Hr. |
|     | For all hours including travel time,<br>worked by our employee during normally<br>scheduled working hours.<br>(Monday-Friday, 8 hrs/day)          |              |
| (b) | SATURDAYS AND OVERTIME.....   | \$135.00/Hr. |
|     | For all hours including travel time,<br>worked by our employee on Saturdays<br>or any other hours other than normally<br>scheduled working hours. |              |
| (c) | SUNDAY AND HOLIDAYS.....  | \$180.00/Hr. |
|     | For all hours including travel time,<br>worked by our employee on Sundays and<br>Holidays.  |              |

**2. EXPENSES CHARGES:**

For actual travel and living expenses incurred by our employee from the time he leaves home base to the time he returns to that base.

**3. PURCHASE ORDERS:**

All requests for Field Service must be confirmed by a written purchase order.

**EFFECTIVE: MARCH 1, 1995**



**Polymers Division**

Bayer Corporation  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000

April 30, 1998

Frank M. Simonutti  
Wilson Golf  
Wilson Sporting Goods Co.  
2330 East End Drive  
Humboldt, Tennessee 38343

Dear Mr. Simonutti:

Enclosed are the remaining core samples with various cover materials for testing. Processing went well with the 110-50, 110-80 and MP 10,000 cover materials. Hope testing is going well on your end and I look forward to hearing the results. If there is any help I can provide, please call me at 412-777-7510.

Thank you,

Timothy J. Kelly

981001/kl

5/18/98 Polyurethane Cores - RIM (Bayer)

14

7/18/98

Purpose: Preliminary evaluation of Bayer RIM Urethane materials -

Cores mixed/molded to produce balls of acceptable weight → necessary due to higher Specific Gravity of Urethane cores.

Balls molded using 2 core sizes - 1.50", 1.54"  
 Balls molded using 3 core materials - 110-80 (73)  
 110-50 (63)  
 MP-10000 (52)

Note: Unprinted Staff Spin & Staff Distance balls used as reference p.o.2's.  
 Ball physical property results were as follows:

Material	Size	PCN	UC	Shore A	125%	COX 100%	125%	TV
Staff Distance	1.6823	104.0	45.02	72	0.910	0.781	0.759	256.6
Staff Spin	1.6794	85.8	45.21	62	0.794	0.720	0.733	255.0
54-MP 10000	1.6931	95.8	46.32	52	0.769	0.727	0.694	250.2
50-MP 10000	1.6726	94.4	46.05	52	0.759	0.731	0.701	250.6
54 - (110-80)	1.6915	112.0	46.49	73	0.776	0.750	0.723	251.1
50 - (110-80)	1.6923	113.4	46.36	73	0.774	0.747	0.717	249.9
54 - (110-50)	1.6880	109.4	46.28	63	0.777	0.748	0.716	251.0
50 - (110-50)	1.6952	104.2	46.50	63	0.767	0.744	0.710	247.9

Results indicate that Bayer materials (on standard core) yield significantly poorer resilience properties than Sinter cores (as expected).

Surprisingly, there is minimal difference in resilience properties between 110-50 and 110-80 grades despite significant difference in core hardness. There is also not much difference in ball compression, indicating that flexural modulus (stiffness) may not vary greatly despite difference in core hardness.

Further testing to be determined

INCREASED AND UNDERSTAND

NCO

INCO

Michael Reed

DATE

4/19/98

DATE

NCO

DATE

5/22/98

EXHIBIT

1

Blumberg No. 5118